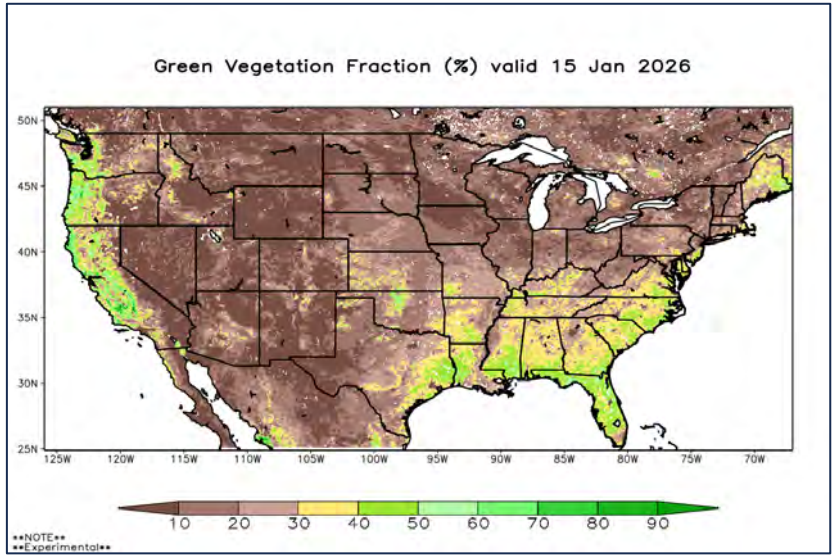
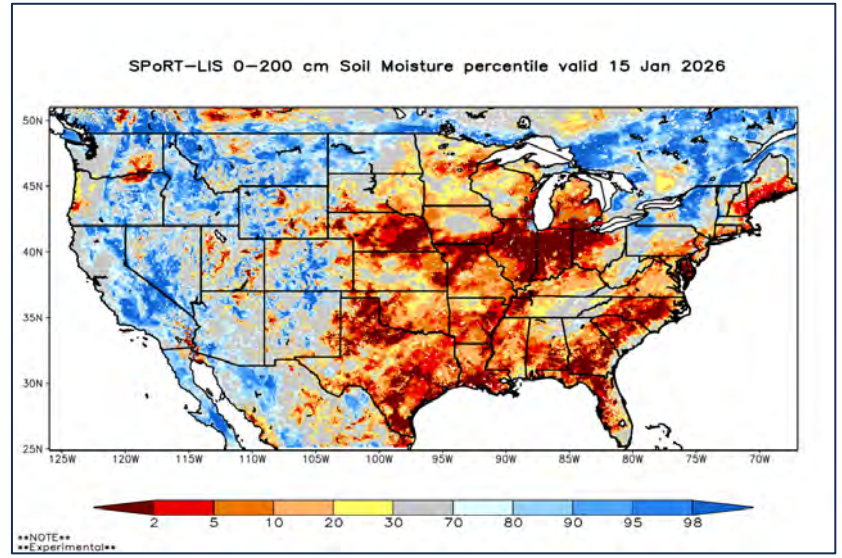
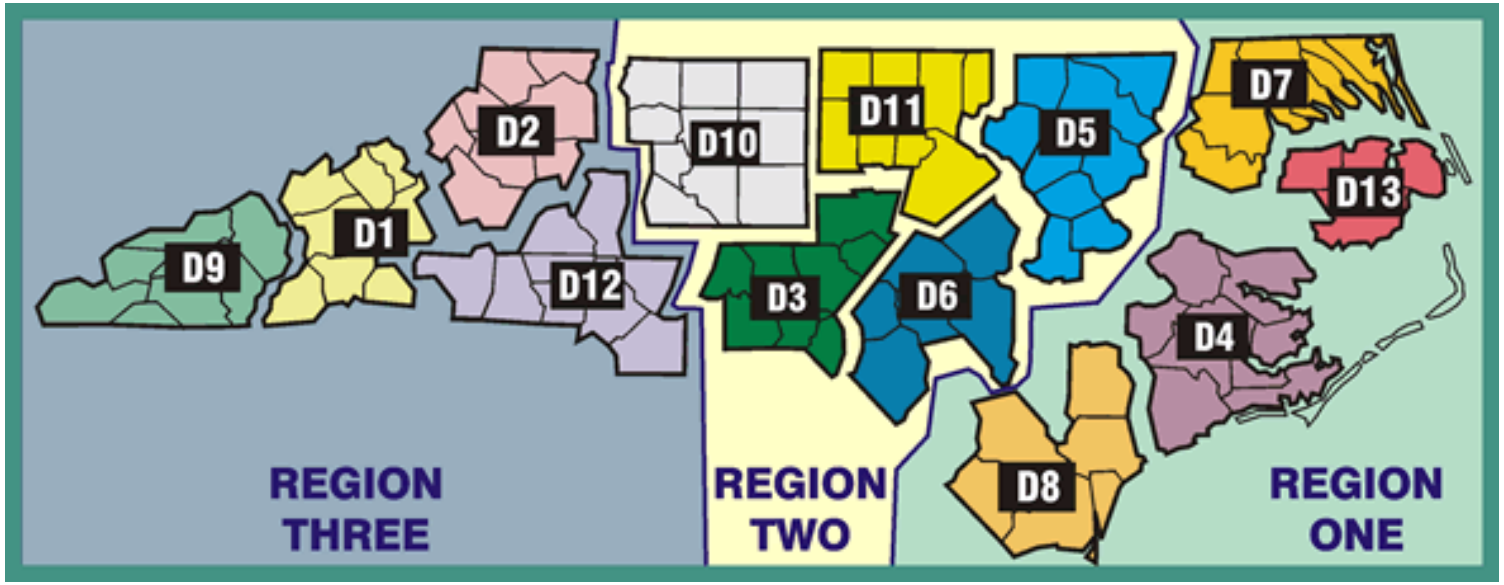
January - 2026

Monthly Fire Danger Assessment NCFS – All Regions







Date: January 16, 2026

Created by: Jamie Dunbar
Fire Environment Staff Forester
NC Forest Service

Statewide Wildfire Context

***January: 10-yr avg is 309 fires for 530 acres**

February: 10-yr avg is 618 fires for 1,598 acres

March: 10-yr avg is 891 fires for 4,784 acres

April: 10-yr avg is 629 fires for 6,546 acres

May: 10-yr avg is 293 fires for 1,161 acres

June: 10-yr avg is 243 fires for 2,424 acres

July: 10-yr avg is 193 fires for 645 acres

August: 10-yr avg is 138 fires for 395 acres

September: 10-yr avg is 173 fires for 377 acres

October: 10-yr avg is 236 fires for 1,962 acres

November: 10-yr avg is 462 fires for 6,035 acres

December: 10-yr avg is 305 fires for 580 acres

November: 921 incidents for 2,353 acres

December: 790 incidents for 1,591 acres

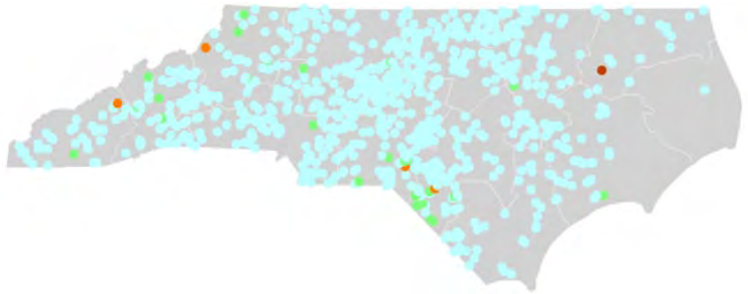
MTD Activity: **678 incidents for 1,407 acres**

All wildfire activity data is preliminary
Does not include additional federal wildfires/acres
2015-2024 CY Average

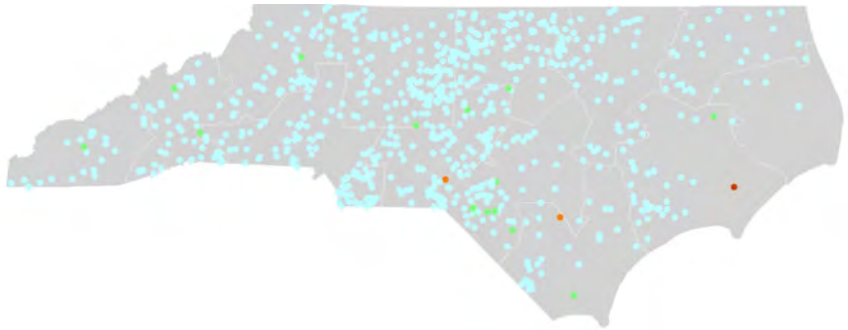
**Largest incidents by discovery date, MTD:
from fiResponse & preliminary reporting only

Incident Name	Discovery Date	Region	District	County	Acres
Marks Creek Church Rd #2	1/11/2026	Region 2	District 3	Richmond County	122.00
Marks Creek	1/11/2026	Region 2	District 3	Richmond County	93.00
Joe Holloman Solar	1/9/2026	Region 1	District 7	Hertford County	75.00
Big Smoke	1/15/2026	Region 2	District 6	Harnett County	60.00
McRimmon Rd	1/12/2026	Region 2	District 6	Robeson County	56.60
Cascine #2	1/14/2026	Region 2	District 5	Franklin County	51.00
Midnight Battleboro	1/13/2026	Region 2	District 5	Edgecombe County	50.00
Old Parker Farm Rd	1/14/2026	Region 2	District 6	Hoke County	49.10
Cal Floyd Road Solar Field	1/7/2026	Region 2	District 5	Northampton County	45.00
Bone Camp Road	1/3/2026	Region 3	District 1	Madison County	23.60
Marion-Amos Road	1/11/2026	Region 2	District 6	Sampson County	18.50

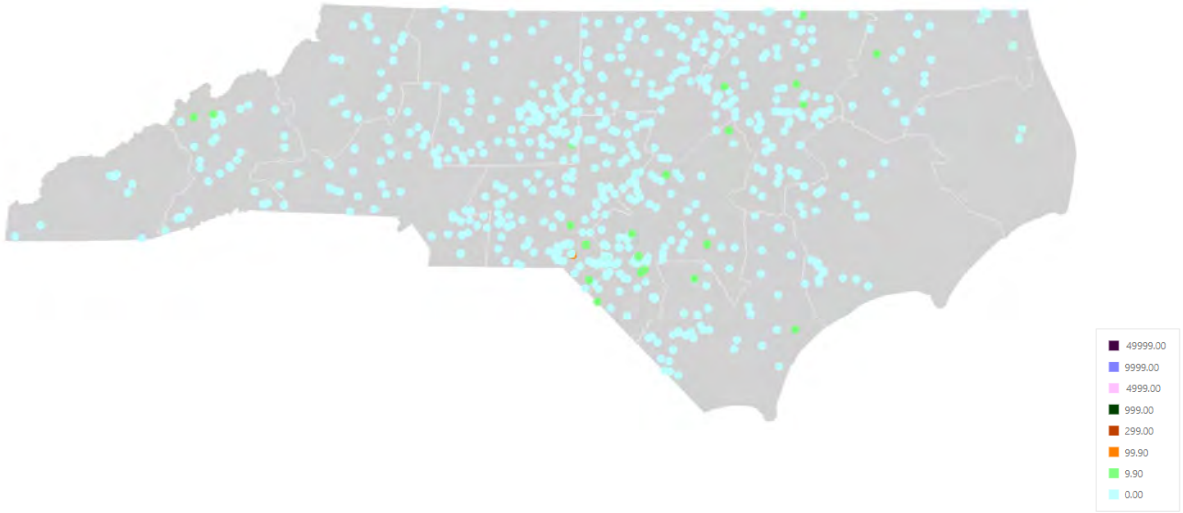
November 2025



December 2025

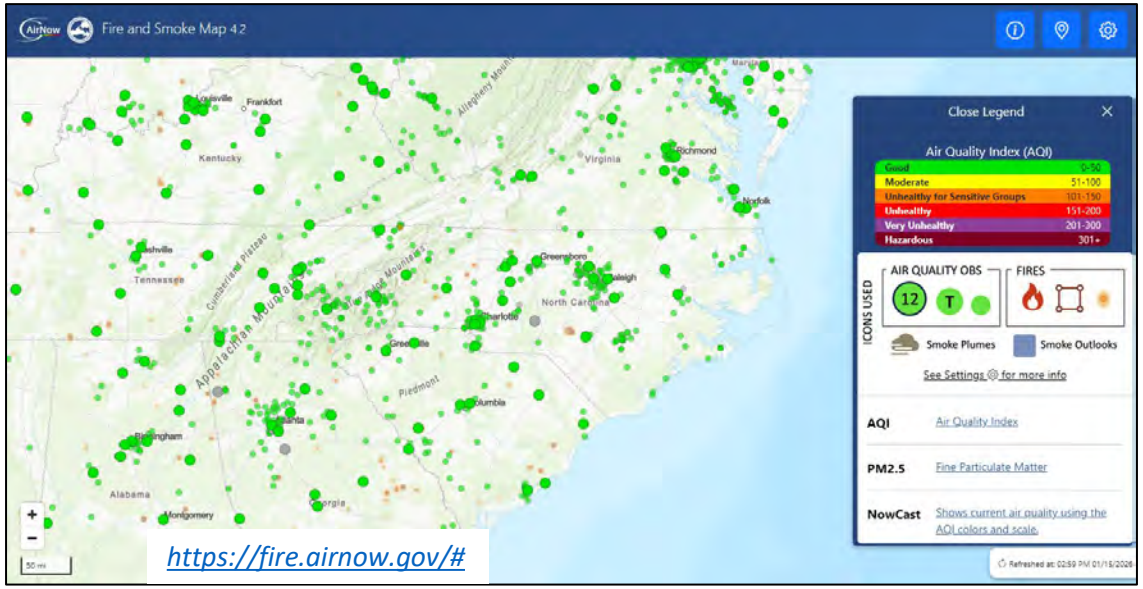


MTD (1/1 – 1/15)



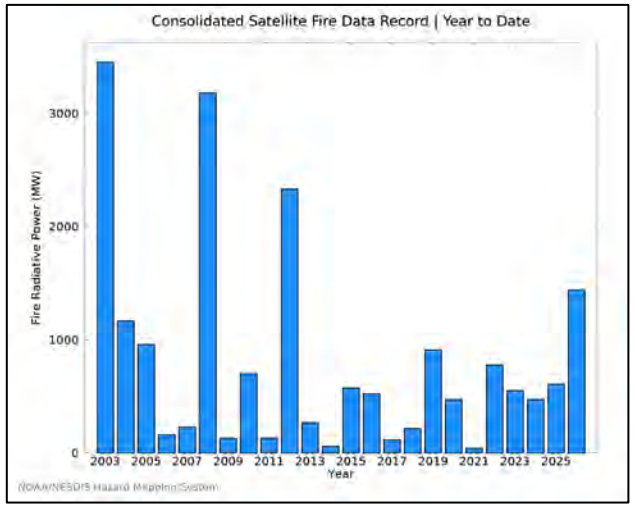
***Note: DOD & other entirely federal ownership wildfires not shown on fiResponse*

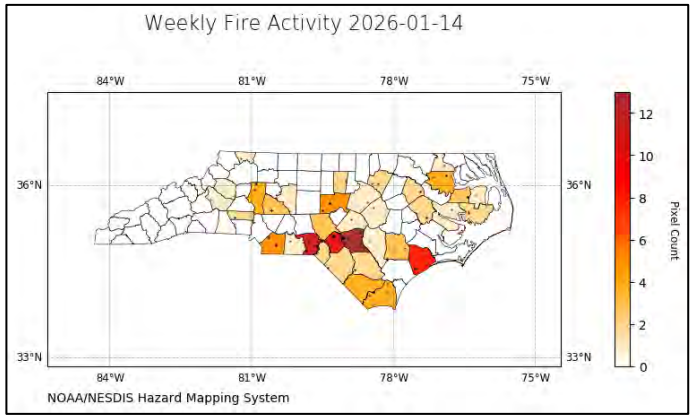
Air Quality Notes



https://fire.airnow.gov/#

Fire & Smoke Map heat detects from VIIRS (above). RX burning evident in the Southeast. NC Map showing past week satellite detects from same source & bottom table compares combined statewide fire radiative power by CY-Year (YTD context ending on 1/14/26) . Note that cloud cover and other factors can limit detections, not all detects may be "forestry related". Hazard Mapping System link below, center.





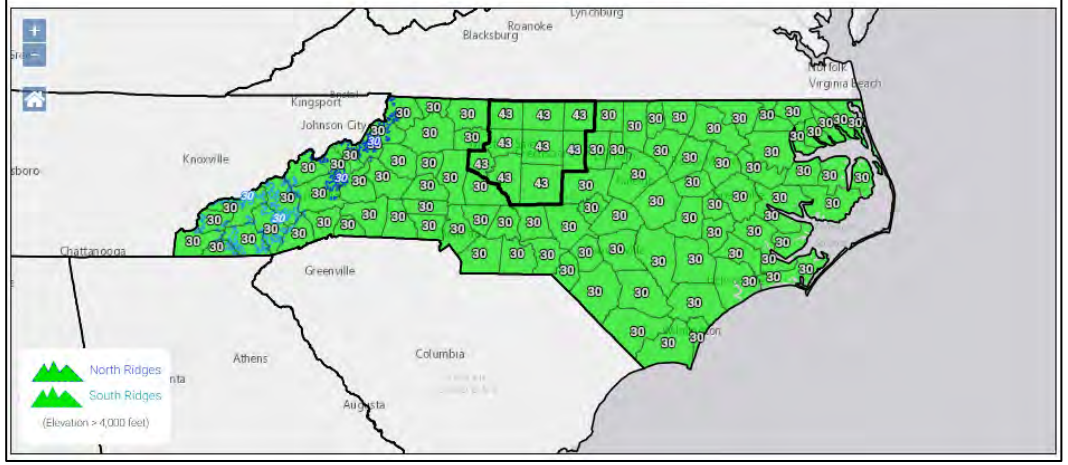
https://www.ospo.noaa.gov/products/land/hms.html#maps

Extended Air Quality Outlook

The forecast Air Quality Index value for each pollutant represents the highest value expected within each county, so some areas and monitors may see lower values. We use the best information and techniques available to ensure the quality and accuracy of the forecasts we provide to the public. Note that ranges do *not* include the nine-county Triad region, which is covered by the Forsyth County Office of Environmental Assistance and Protection.

Forecast Day	View Maps	Max AQI Range	Category Range	Download KML
Wednesday (Jan 14)	Max AQI · PM2.5	45 to 55	Green to Yellow	download
Thursday (Jan 15)	Max AQI · PM2.5	30	Green	download
Friday (Jan 16)	Max AQI · PM2.5	37	Green	download
Saturday (Jan 17)	Max AQI · PM2.5	43 to 50	Green	download

Maximum Air Quality Index for Jan 15, 2026



This forecast was issued on **Wednesday, January 14, 2026** at **3:02 pm**. This forecast is currently valid.

Today's Air Quality Conditions

Hourly fine particulate levels across much of the state are in the Code Yellow range, with the primary exception being from Asheville over to Charlotte where levels have remained in the Code Green range.

For a display of the most recent Air Quality Index (AQI) conditions throughout the day, visit the Ambient Information Reporter (AIR) tool.

General Forecast Discussion

Thursday on into Friday, a digging upper level trough will send another strong cold front through the region early Thursday, which should lower fine particulate levels back into the Code Green range statewide and keep them there through Friday as a very dry and cold air mass builds in.

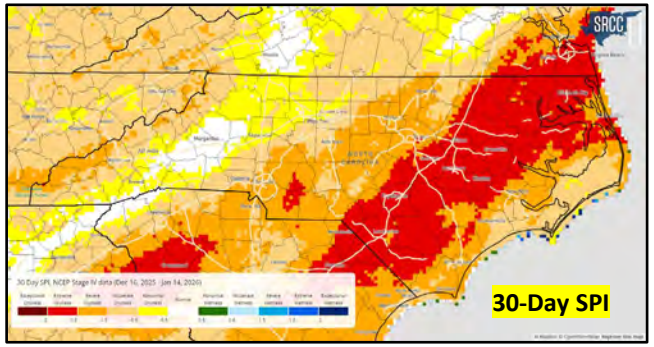
Outlook

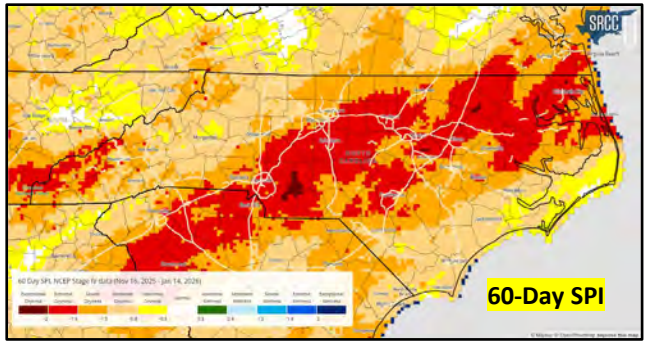
Saturday, the antecedent air mass will continue to slowly stagnate ahead of the next Arctic cold front that will rapidly approach from the west by the evening. Overnight fine particulate levels may rise into the Code Yellow range across interior sections before likely mixing out during Saturday afternoon due to an increasing southwesterly wind ahead of the front.

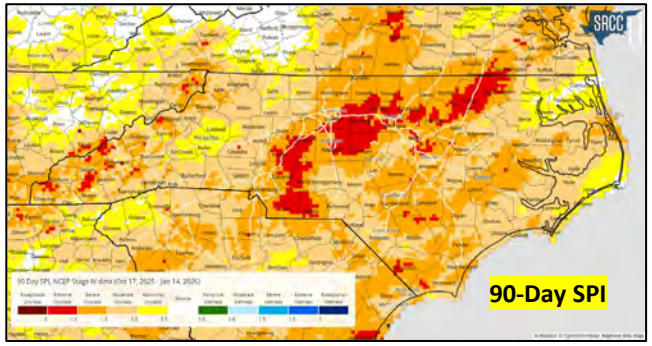
Author: *Bradley McLamb (bradley.mclamb@deq.nc.gov) - NC Division of Air Quality*

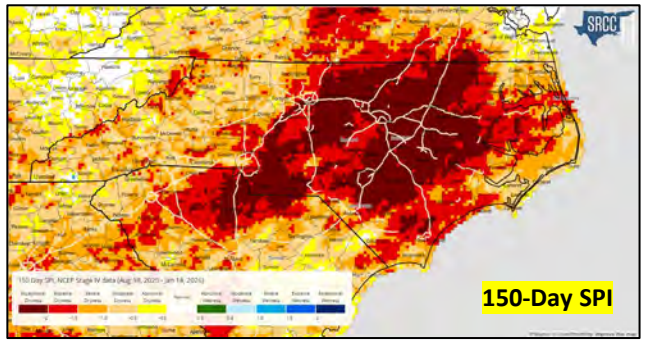
https://airquality.climate.ncsu.edu/discussion/?view=latest

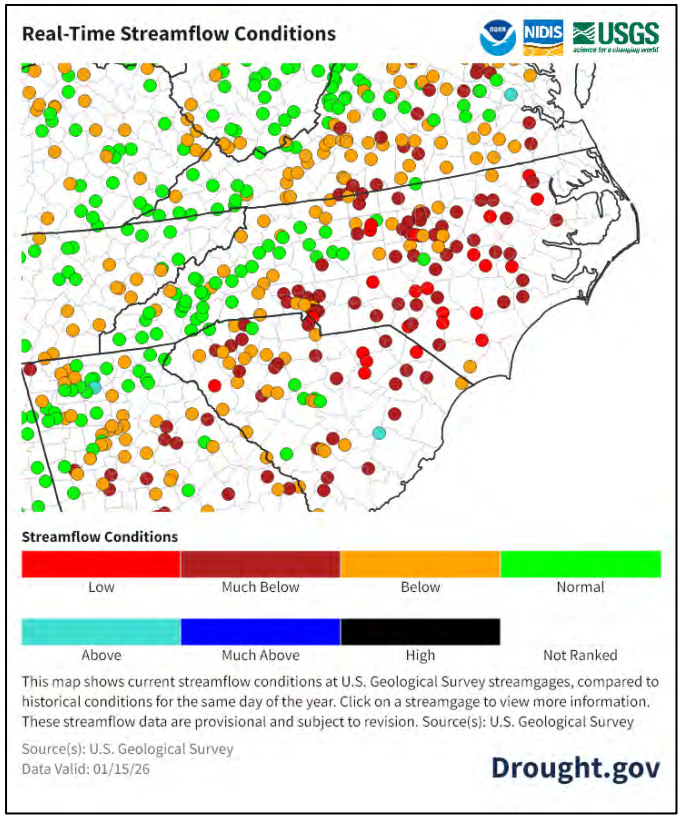
https://srcc.tamu.edu/water_portal/







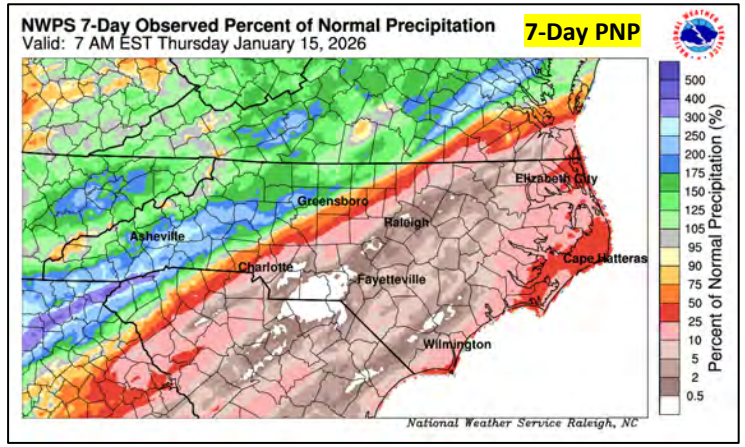


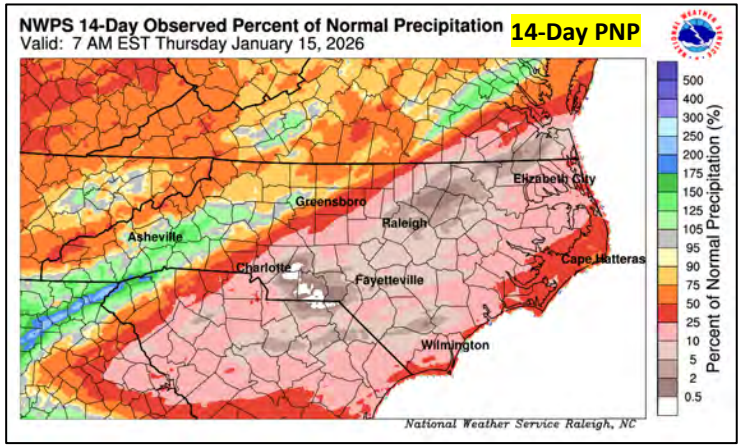


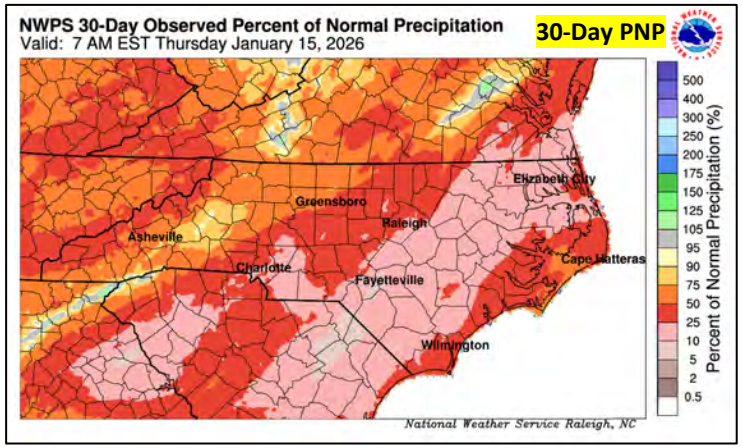
Lack of significant wetting rain events continue for much of the state. Both short and longer time scale SPI products indicate worsening conditions.

Field observation related to fire activity and degree of additional consumption support these areas of higher SPI values.

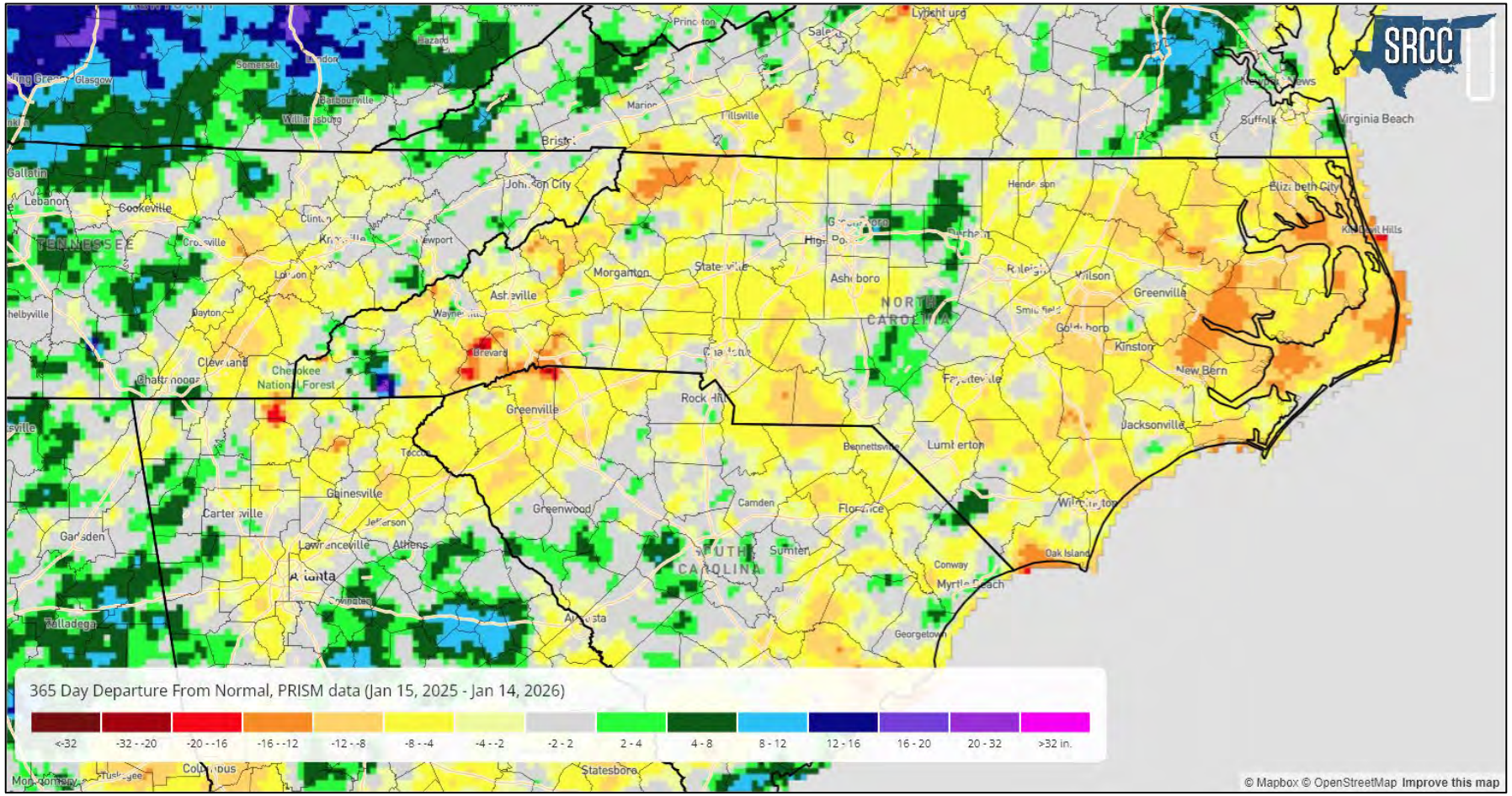
Real-time streamflow from 1/15/26 show normal flow conditions for many mountain stream gauges, however this is likely a short bump from our most recent rain event (see 7-day PNP map on top right). Otherwise the majority of stations are well below normal, which is even more significant considering we are in the dormant season.





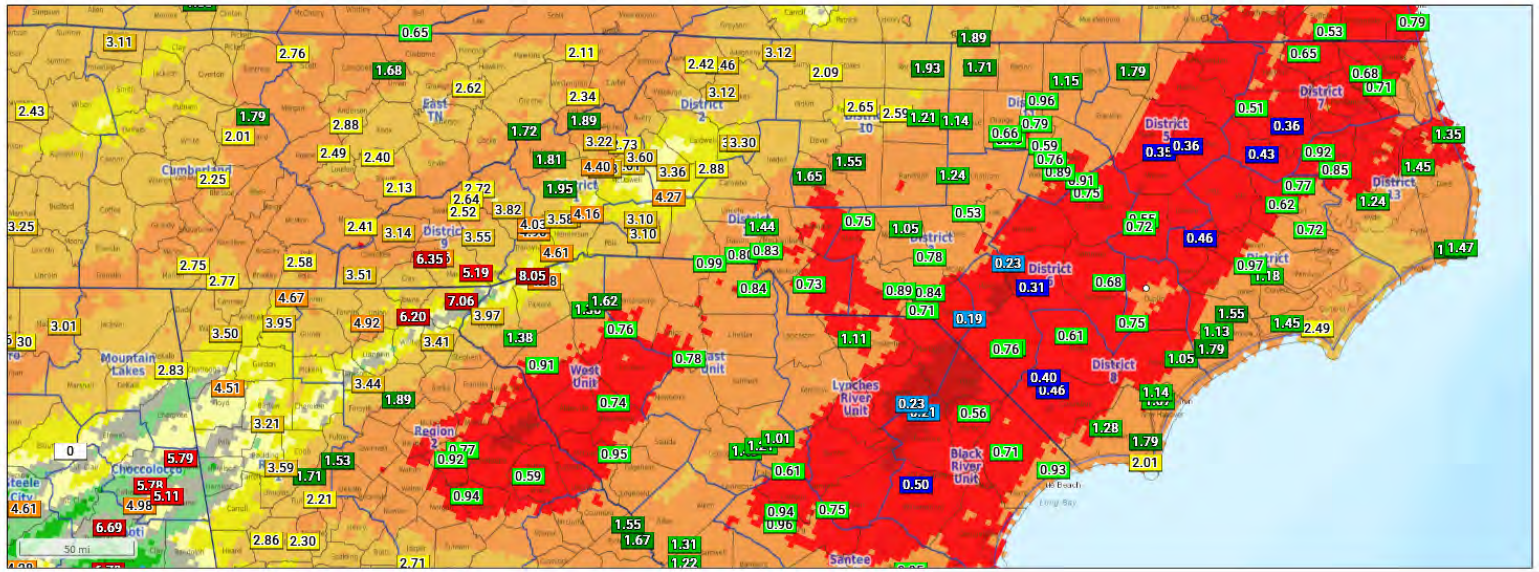


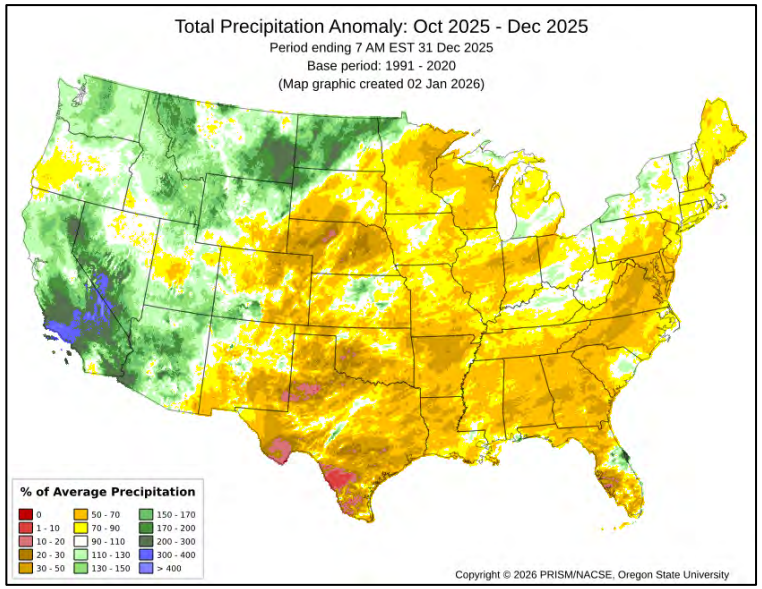
1-Yr Departure from Normal (in.)

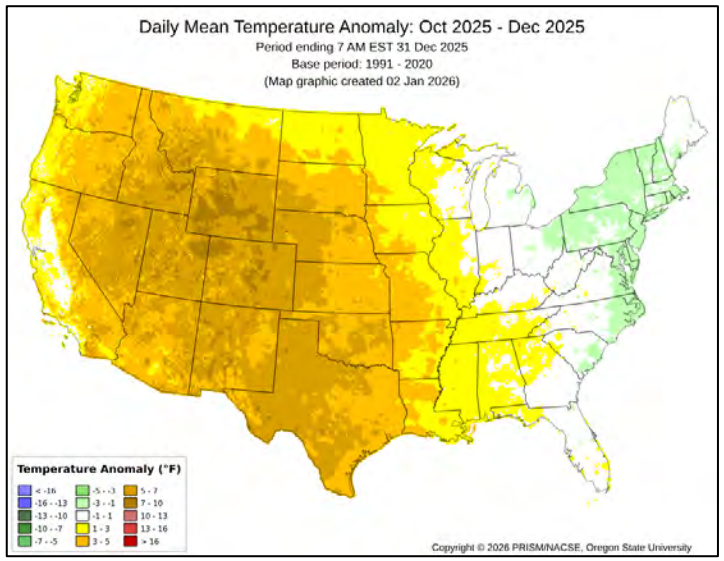


Note darker orange shading is 12-16” behind at 12-mo time scale.

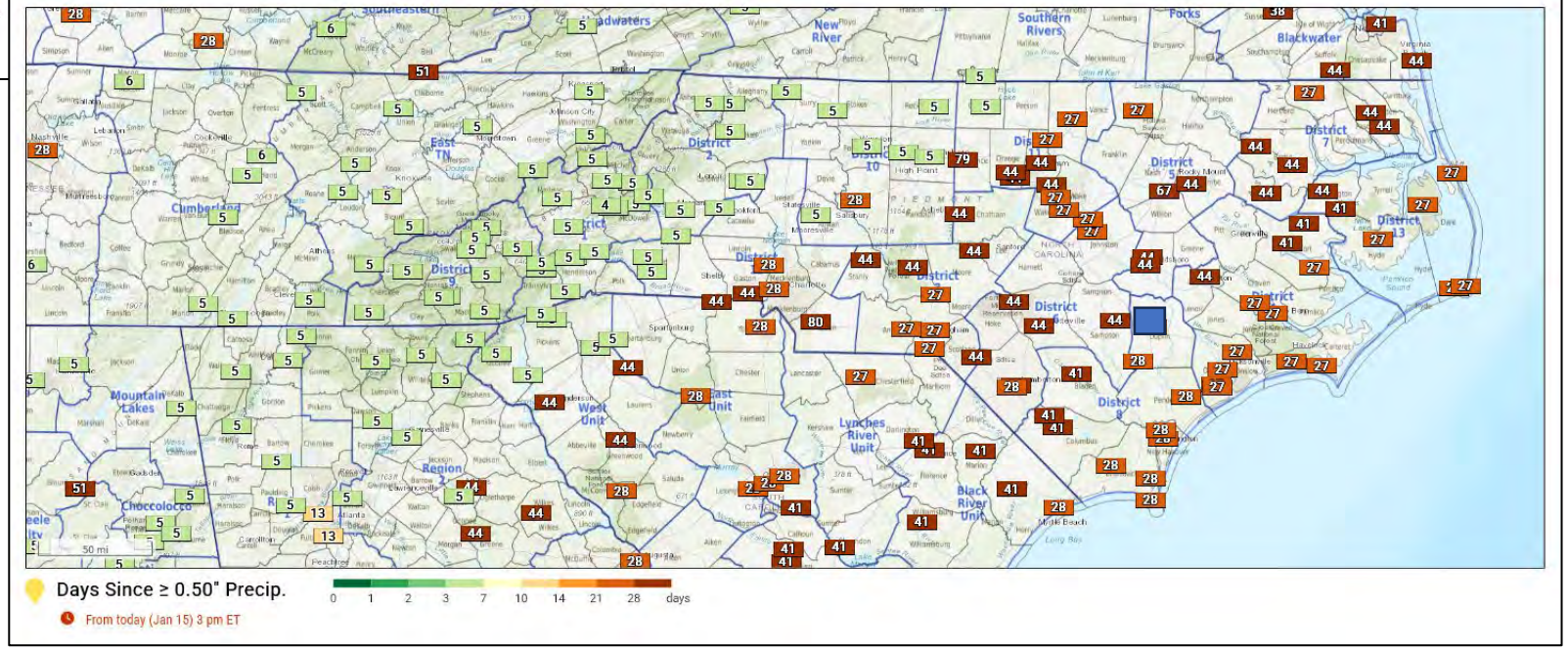
From the Fire We**30-Day Station Total Precip & 30-Day PNP**e.ncsu.edu/fire



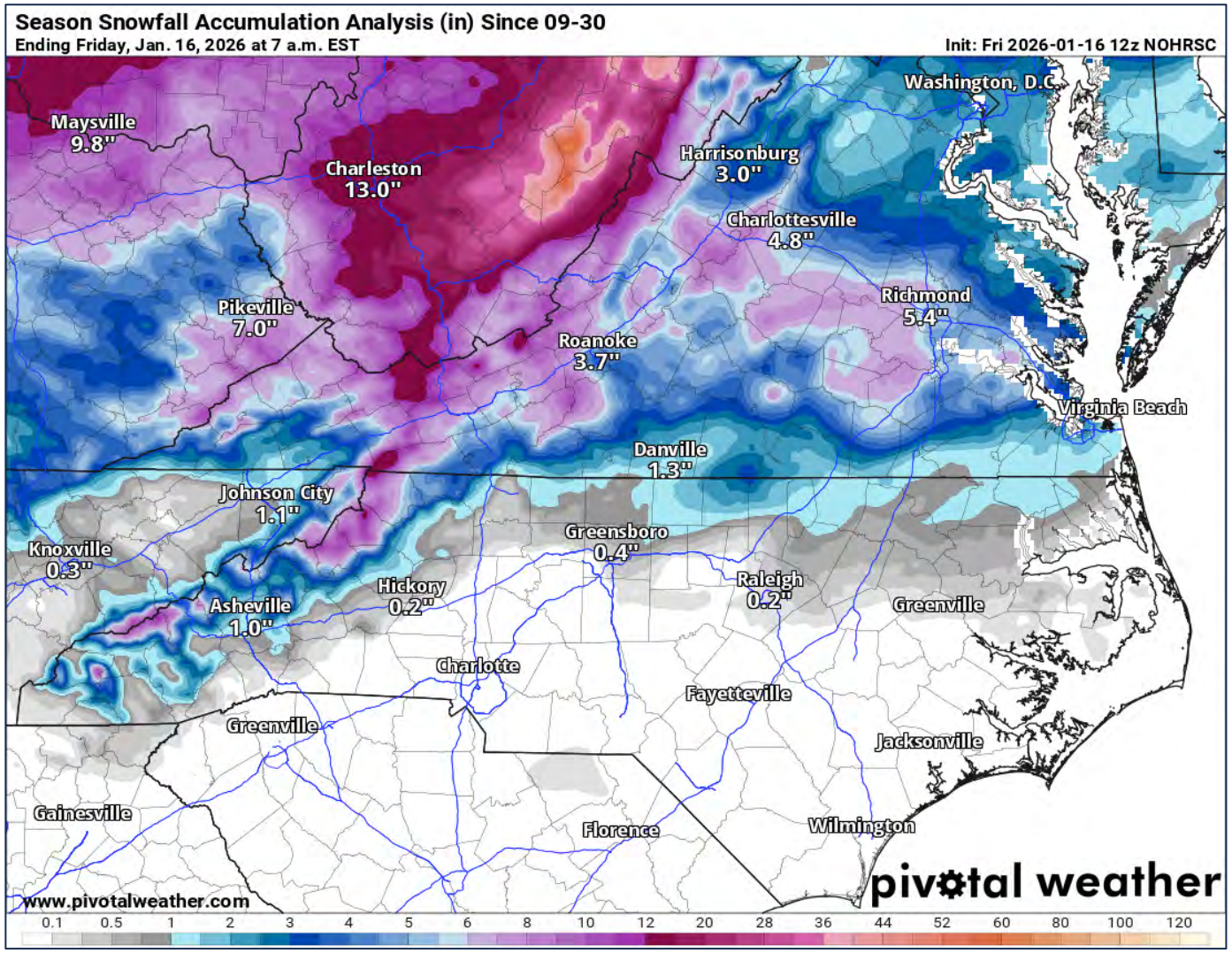




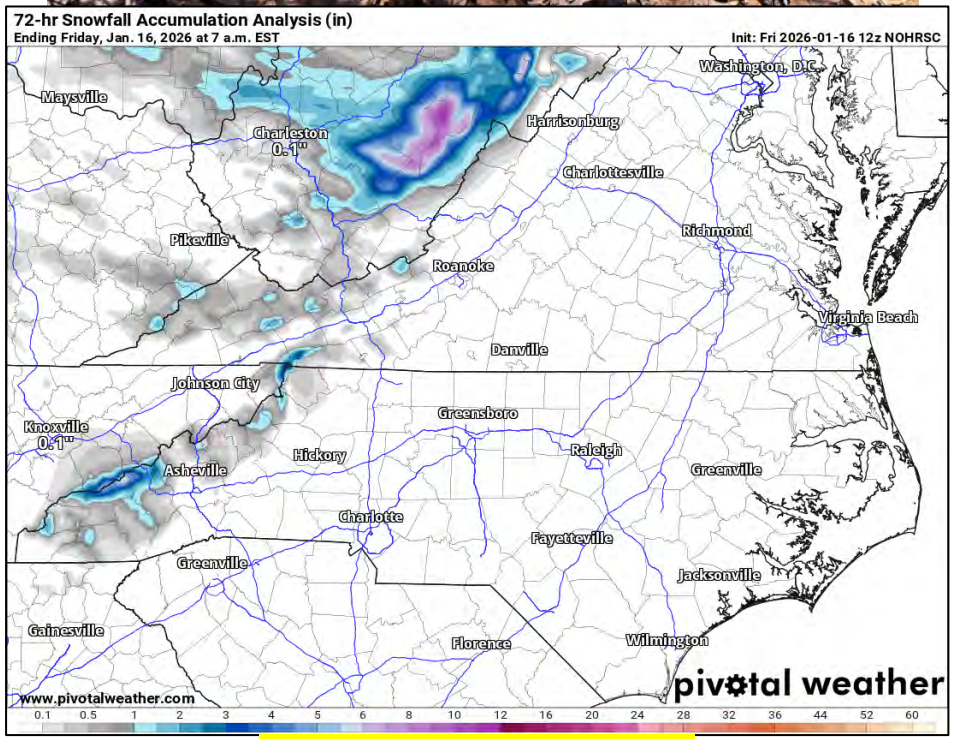
From the Fire Weather Intelligence Portal ·**Days since ≥ 0.50” Precip Event**



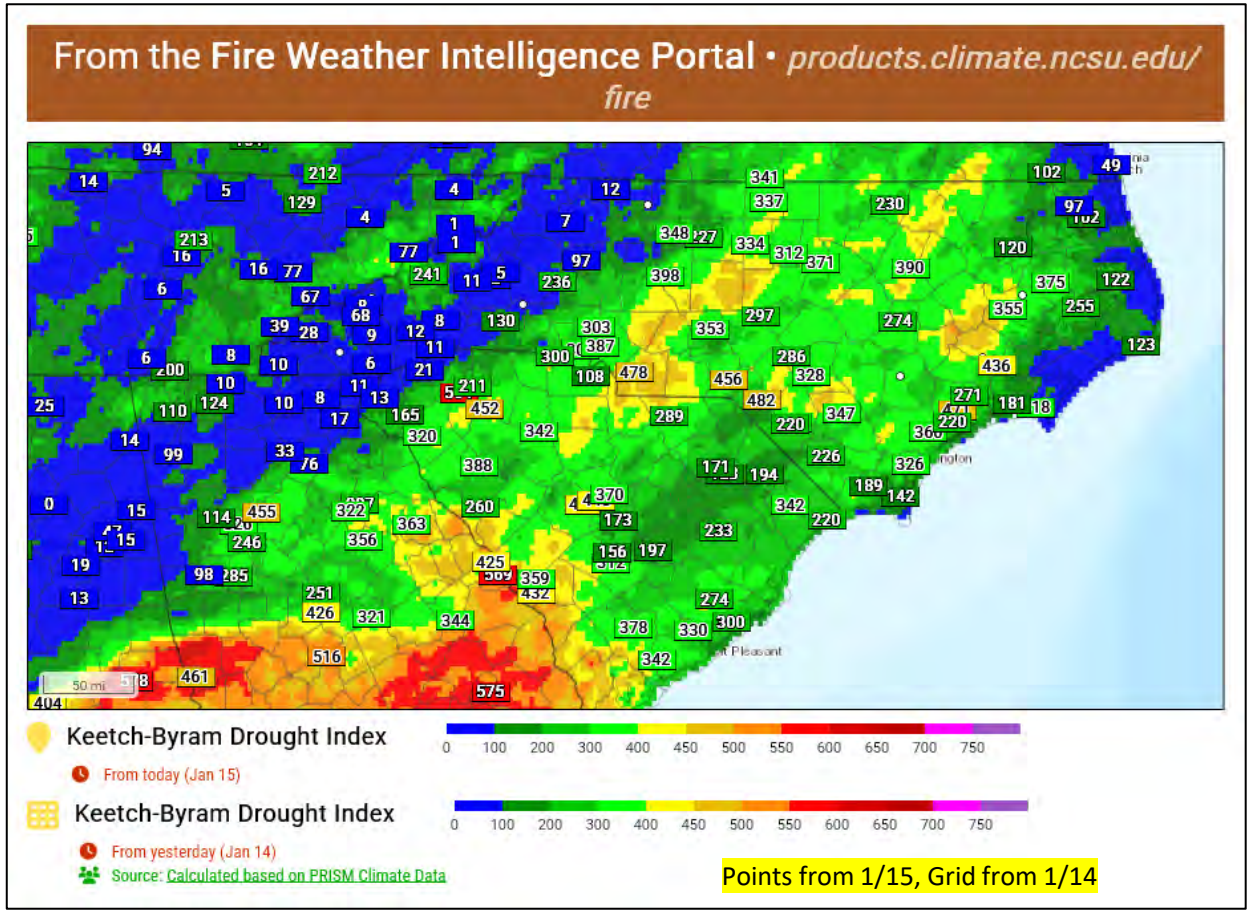
Season Total Snowfall Accumulation



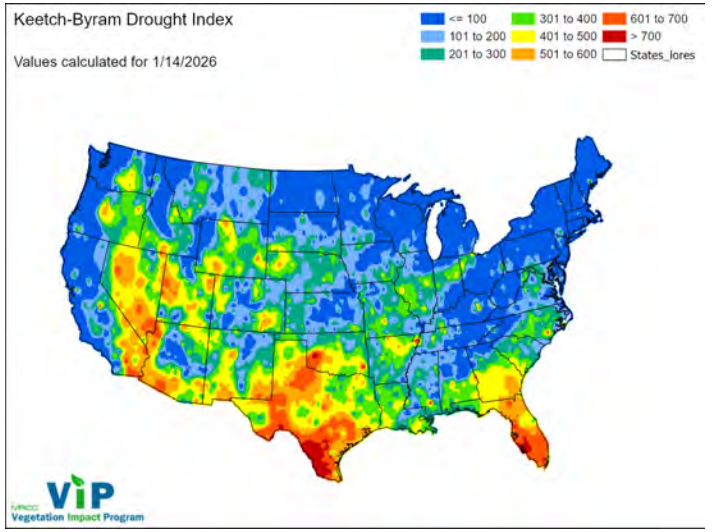
Uncompacted Litter

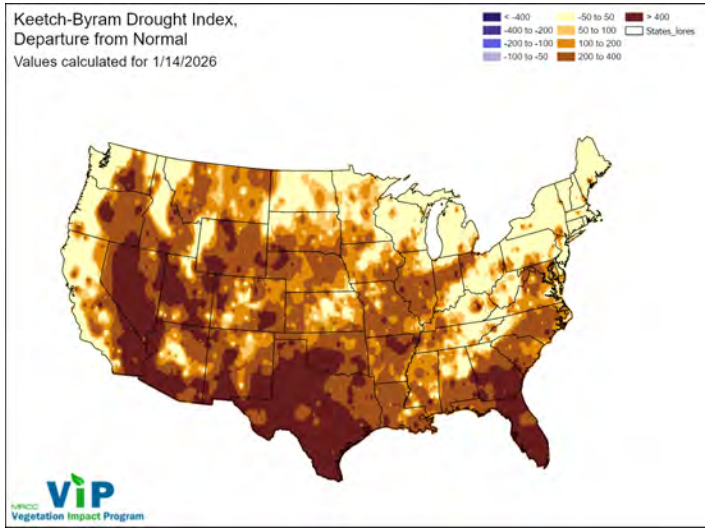


3-Day Snowfall ending 1/16 at 0700



Points from 1/15, Grid from 1/14



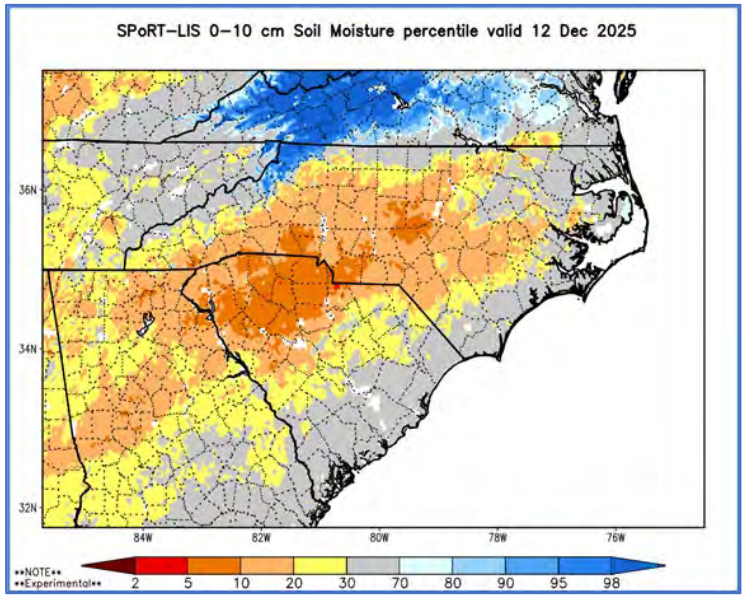


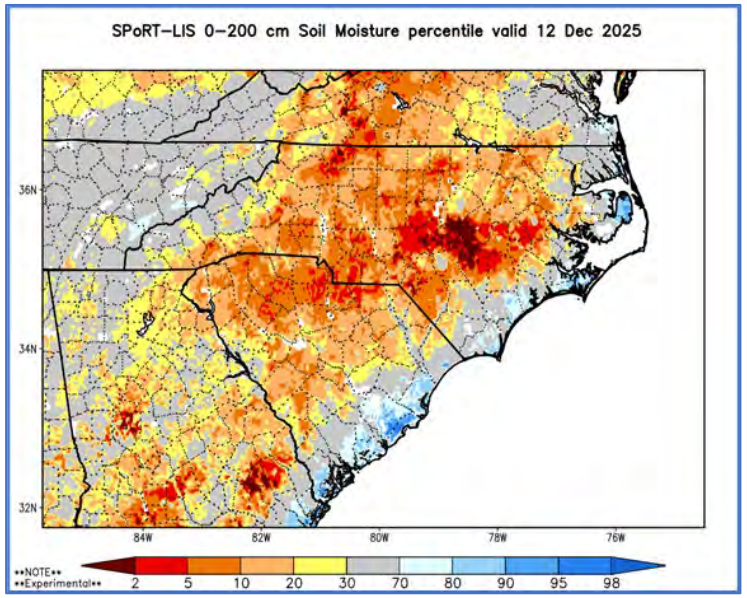
- KBDI is much less representative of the fire problem in the cold season, while max temperatures are low. A moderate rainfall can seemingly "erase" higher KBDI values, as the daily climb after the rain event is minimal. This metric is much more useful in the growing season.
- Intense surface fire can still occur even with low KBDI values in the dormant season. Additionally, there are multiple areas still showing values in the 400's + on the gridded map above, highly abnormal for this time of year.
- The national maps to the right are calculated by MRCC, but paint a similar picture in a broader context.

https://mrcc.purdue.edu/VIP/indexKBDI2

SPoRT Modeled Soil Moisture Percentiles for ~4” and ~72” profile.

12/12/25



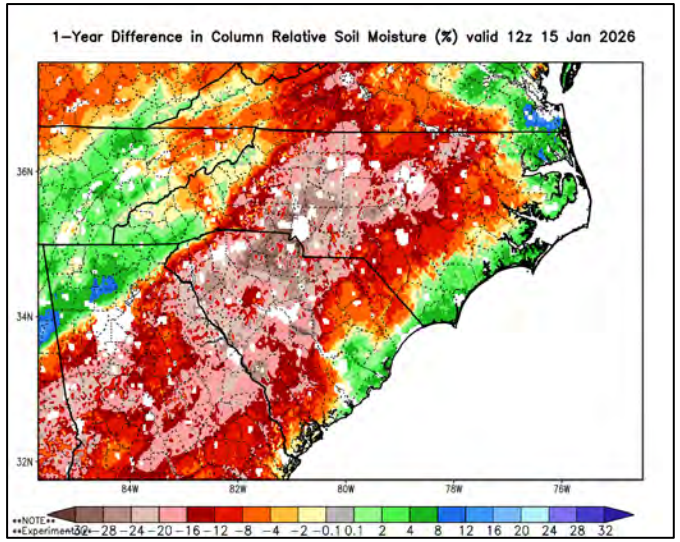


~ 30-days ago Left, today on Right.
Just a model.

Soil dryness expanding in depth and spatial extent.
Slower than growing season, but still occurring.

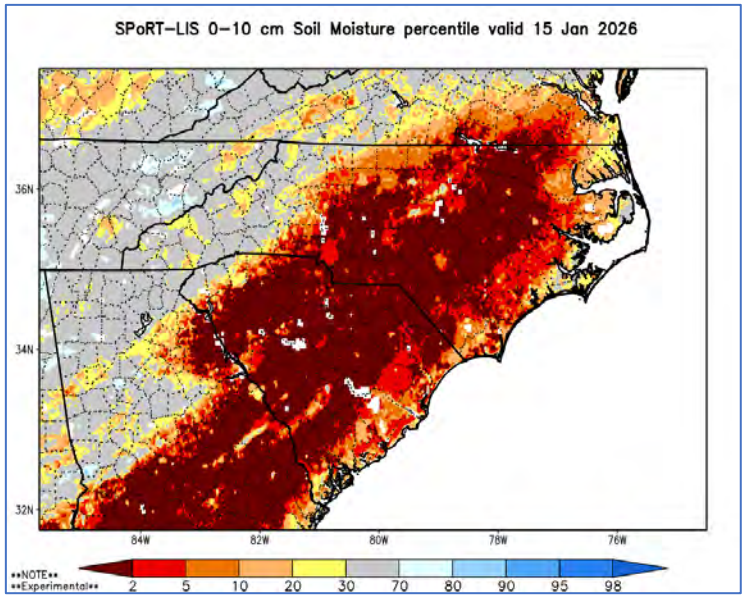
Models are picking up on significant dryness for much of the state.

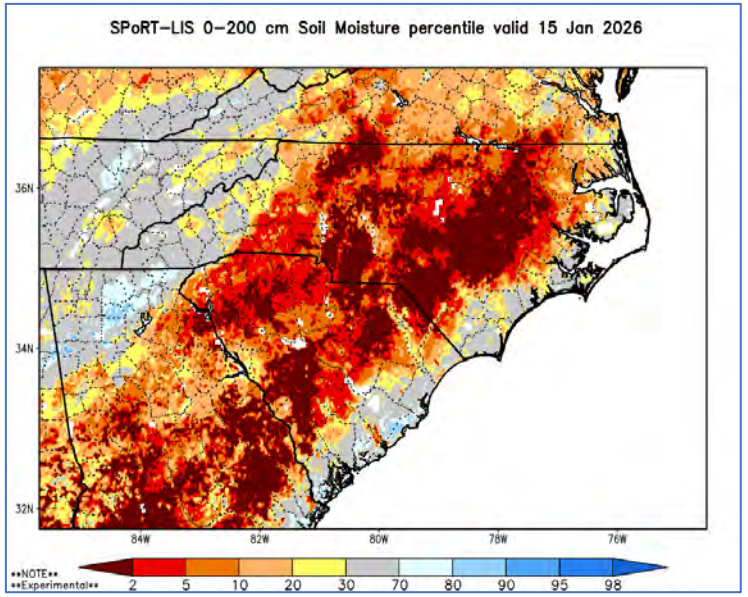
Note 1-year difference graphic below.



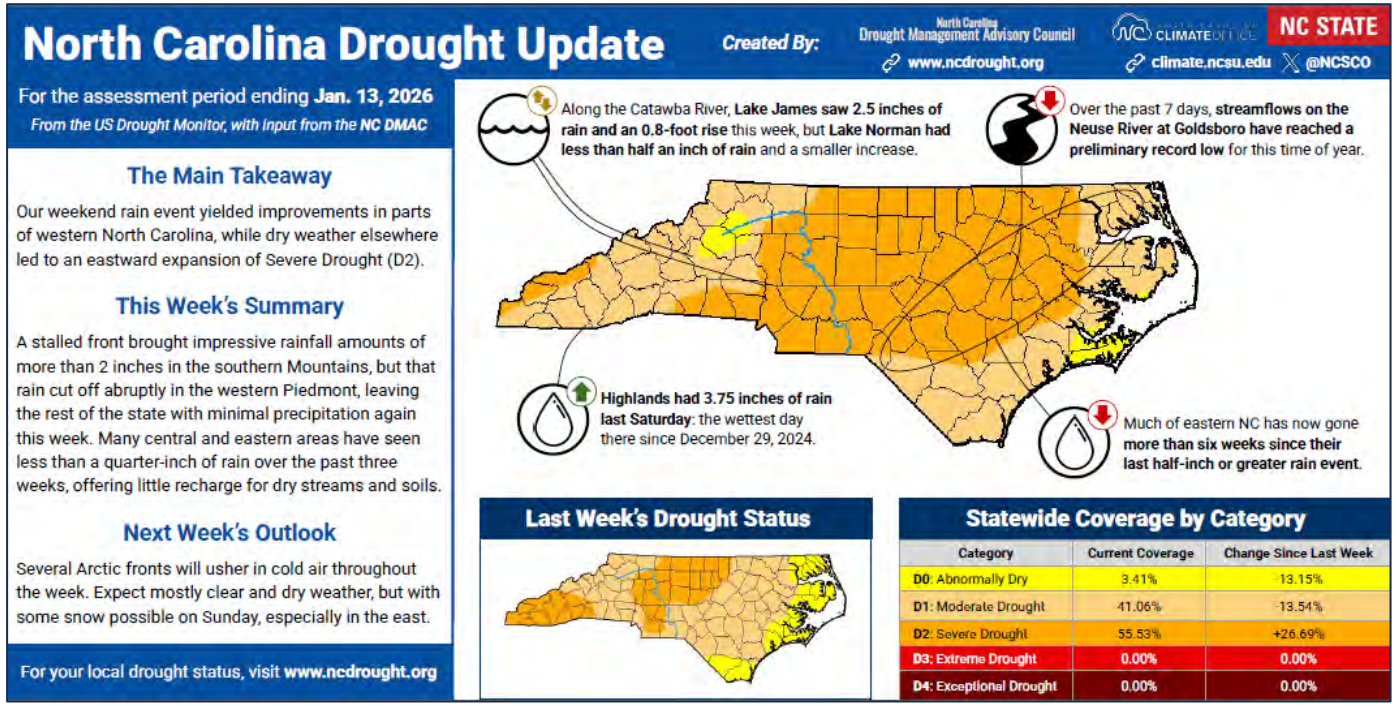
https://weather.ndc.nasa.gov/sport/case_studies/lis_NC.html

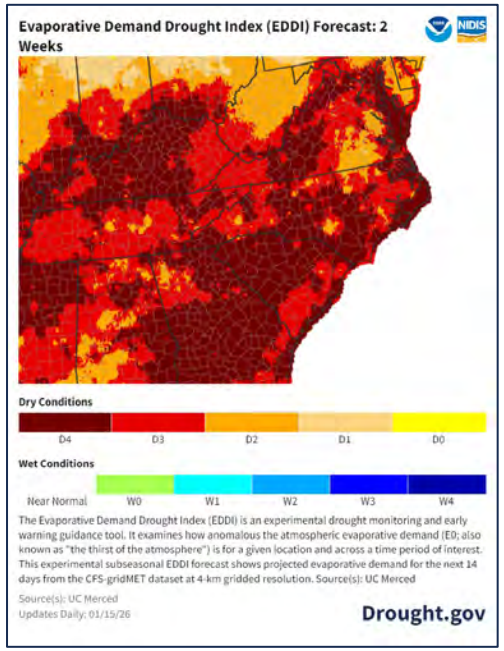
1/15/26

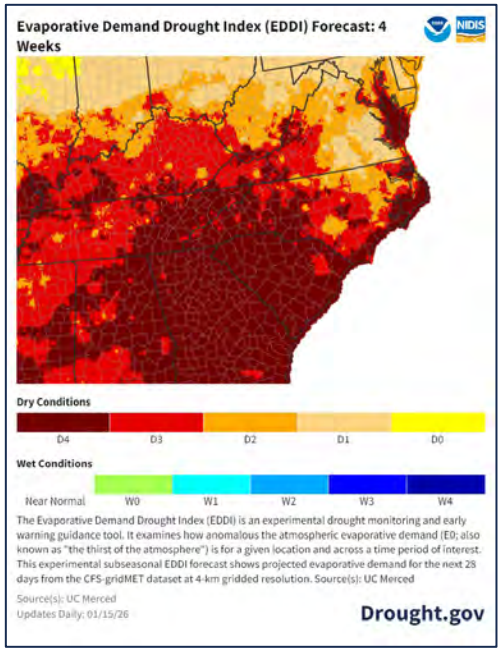




https://www.drought.gov/data-maps-tools/evaporative-demand-drought-index-eddi-subseasonal-forecasts





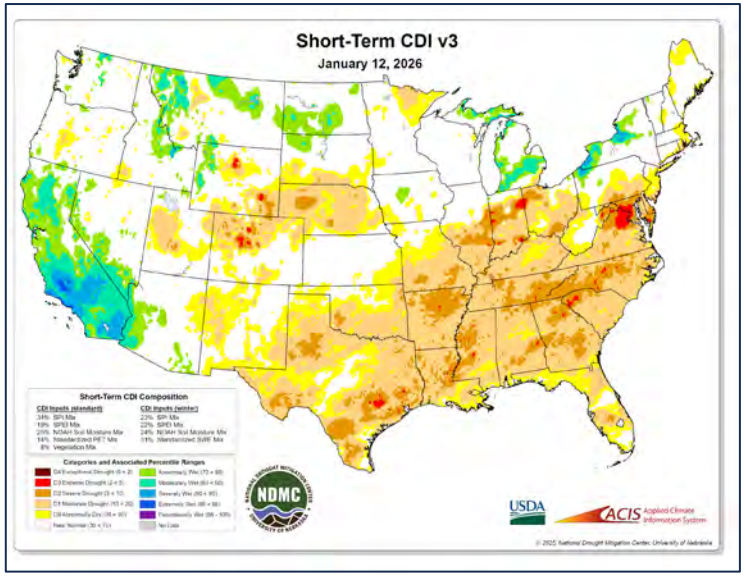


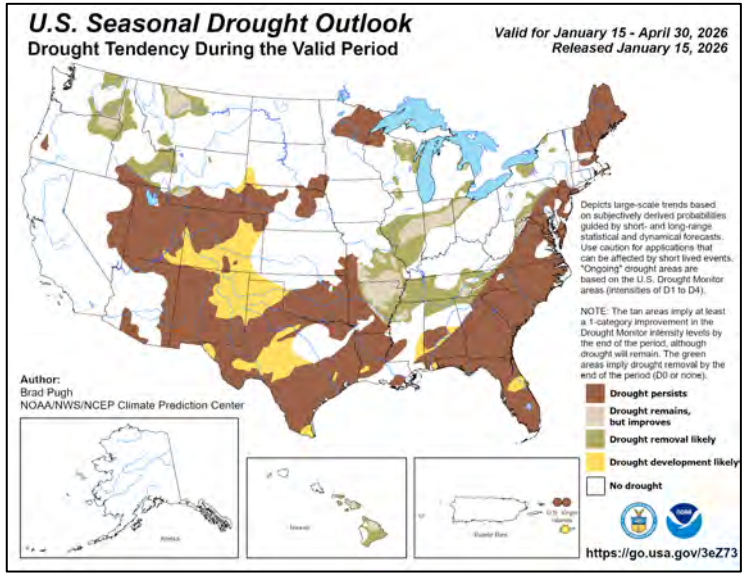
EDDI & Drought

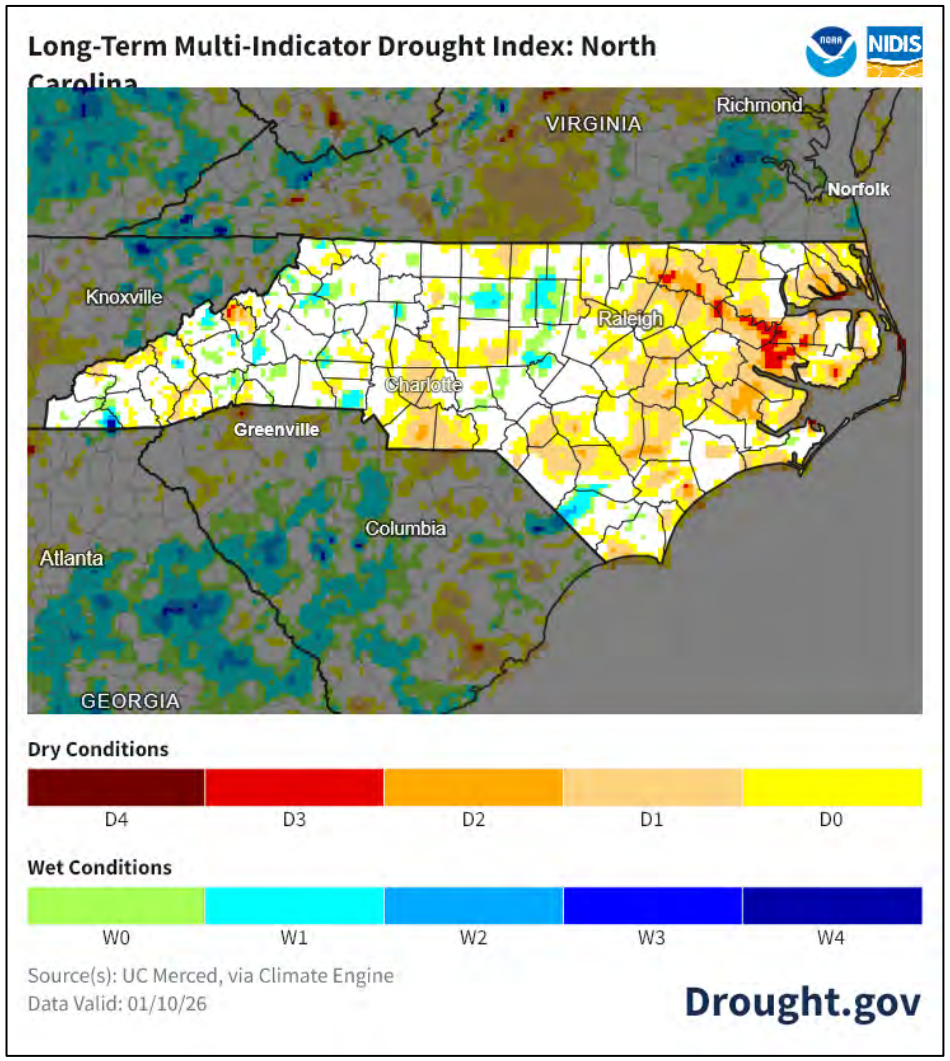
EDDI Maps - The EDDI maps at the top right illustrate modeled evaporative demand at the two-week and four-week avg level. They are trending much drier than normal for NC in the 2-week time scale. Warmth, lack of precip and dry air accelerates this index.

US Drought Monitor – Most recent USDM map release above (1/15/26). Model spread is significant with La Nina related winter pattern impacting the SE. Rapid drought intensification continues to be possible as we move into the growing season, should rainfall deficits remain significant.

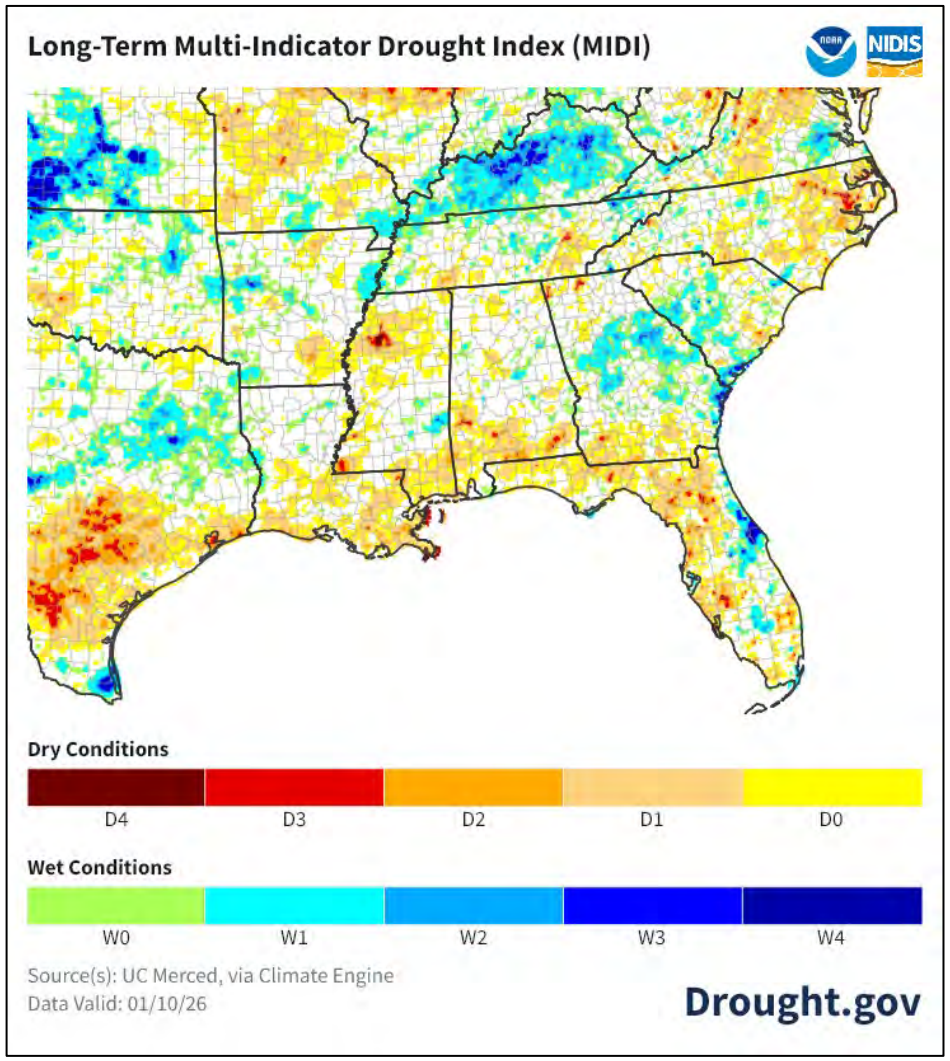
Short-Term Composite Drought Indicator Map & Seasonal Drought Outlook - shown at right. See detailed state/regional discussions here. Conditions are favoring persisting dryness in current areas of drought and expanding overall dryness as we continue through winter. *All of this is dependent upon any future storm tracks and seasonal variability we see moving through Winter.*







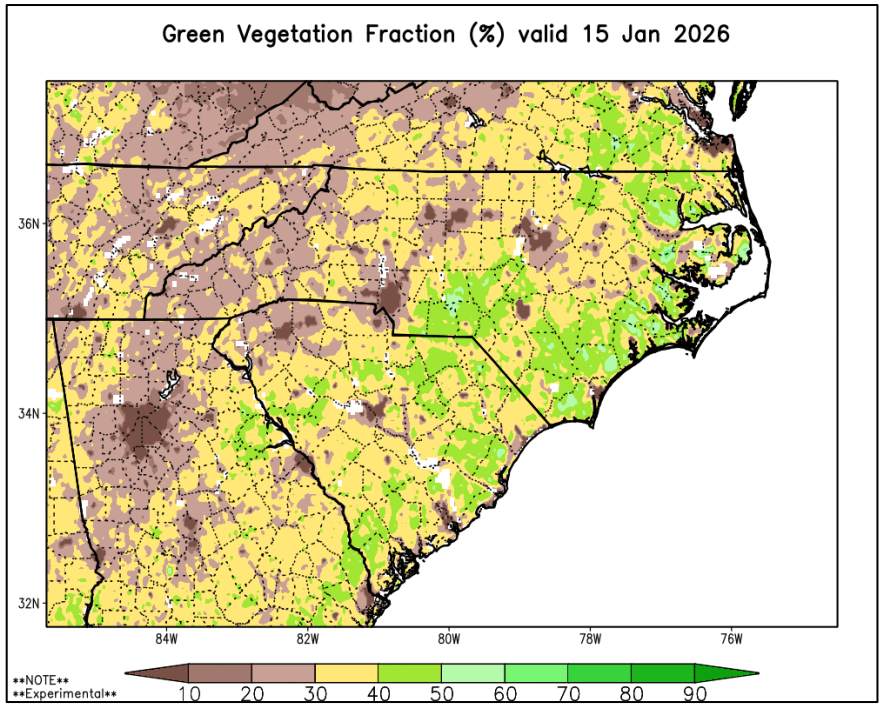
Another view of drought at a longer time scale, using multiple indicators. Note Eastern & Central NC.

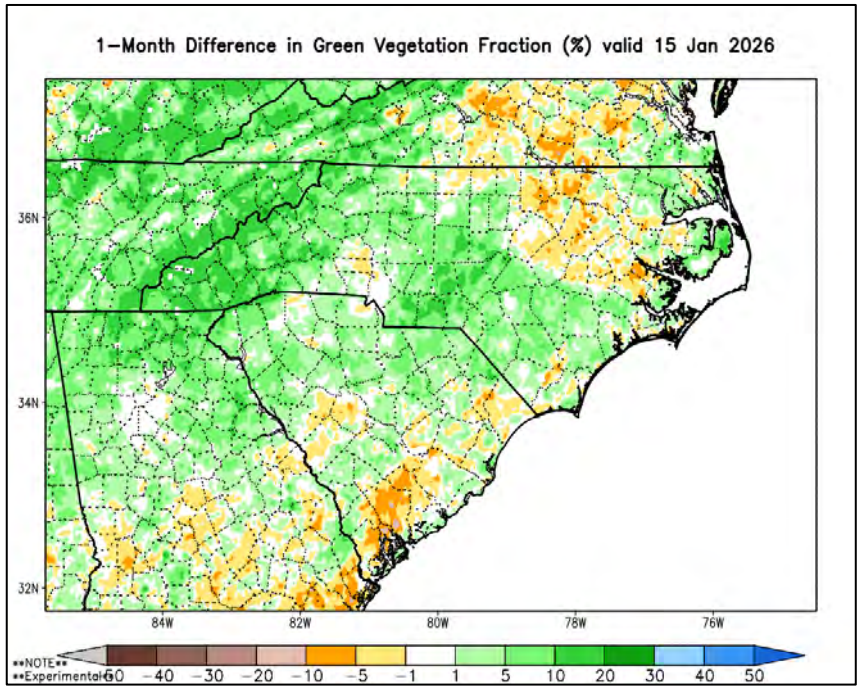


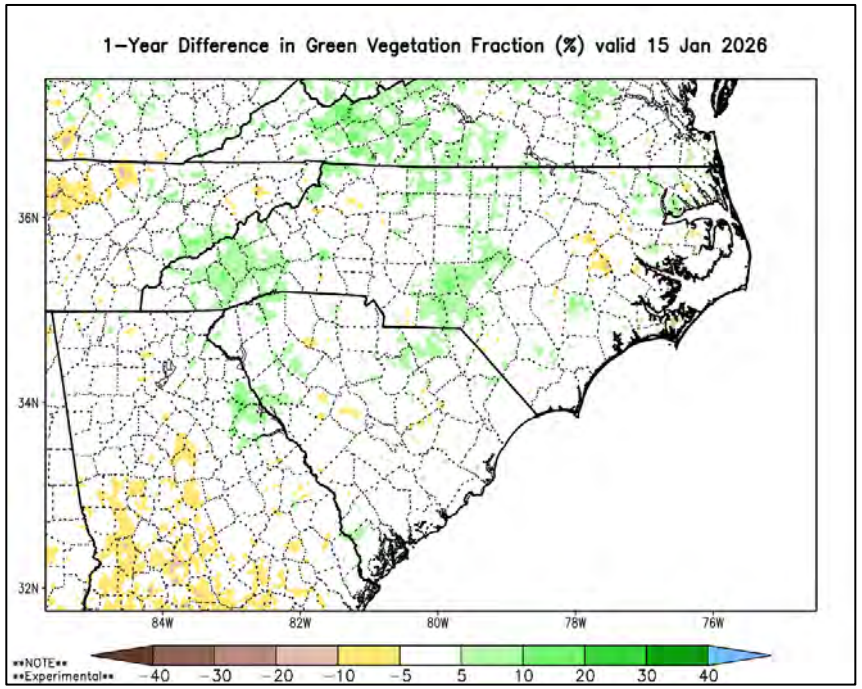
From Drought.gov: The Long-Term Multi-Indicator Drought Index (MIDI) estimates current long-term drought conditions across the U.S. by combining several indicators of drought into a single, computer-generated map. Specifically, this map approximates drought conditions from longer-term changes in precipitation and moisture going back up to 5 years. Long-term drought conditions (lasting months to years) can impact irrigated agriculture, groundwater, and reservoir levels, and can increase wildfire intensity and severity.

This experimental map is based on methodology from the NOAA National Weather Service's Climate Prediction Center. Learn how this map is made.
Source(s): UC Merced, via Climate Engine https://www.drought.gov/data-maps-tools/multi-indicator-drought-index-midi

SPoRT Modeled Green Vegetation Fraction

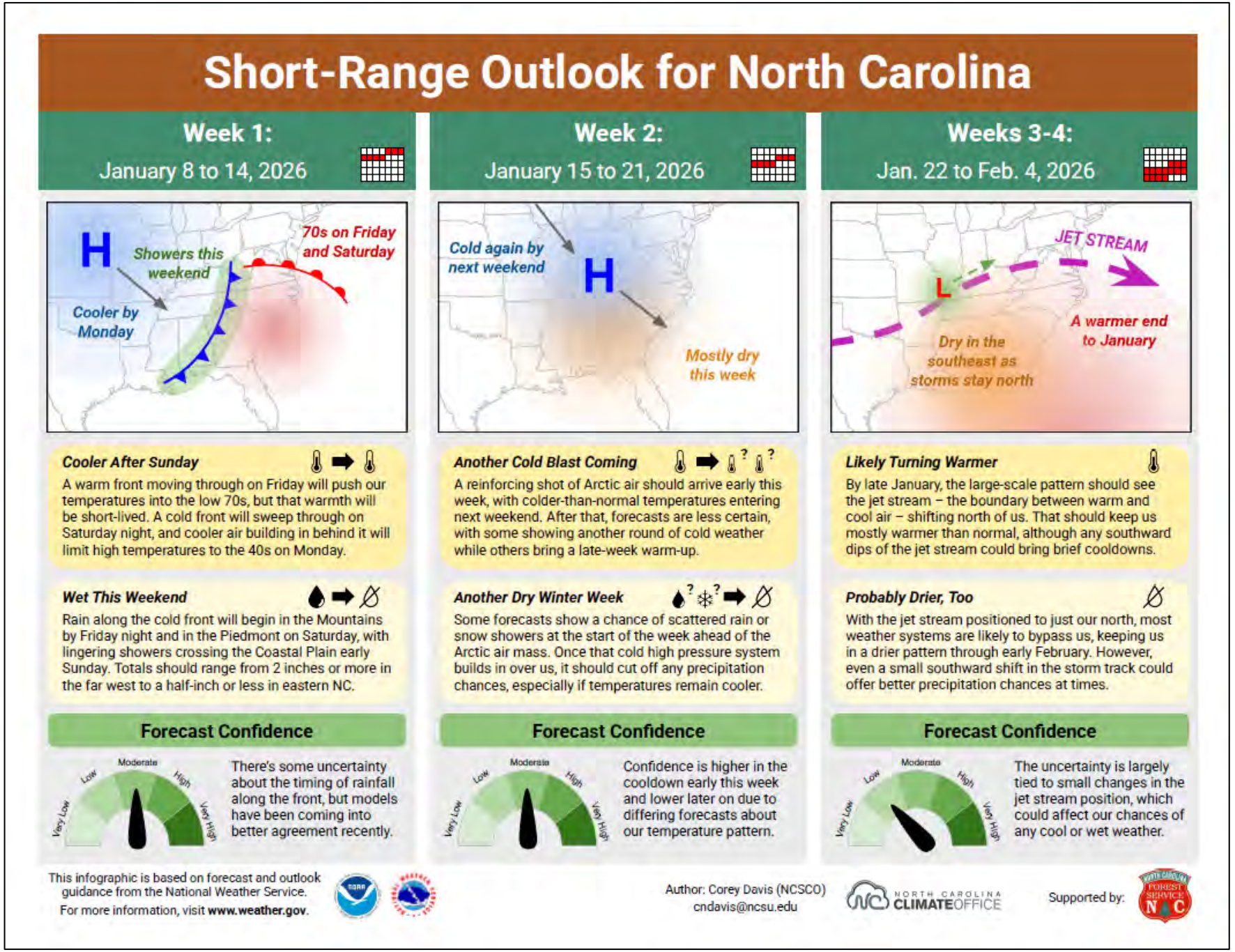






State Climate Office: Short-Range Monthly Outlook for NC

Released ***1/8/26***
Location: https://climate.ncsu.edu/fire/outlooks/

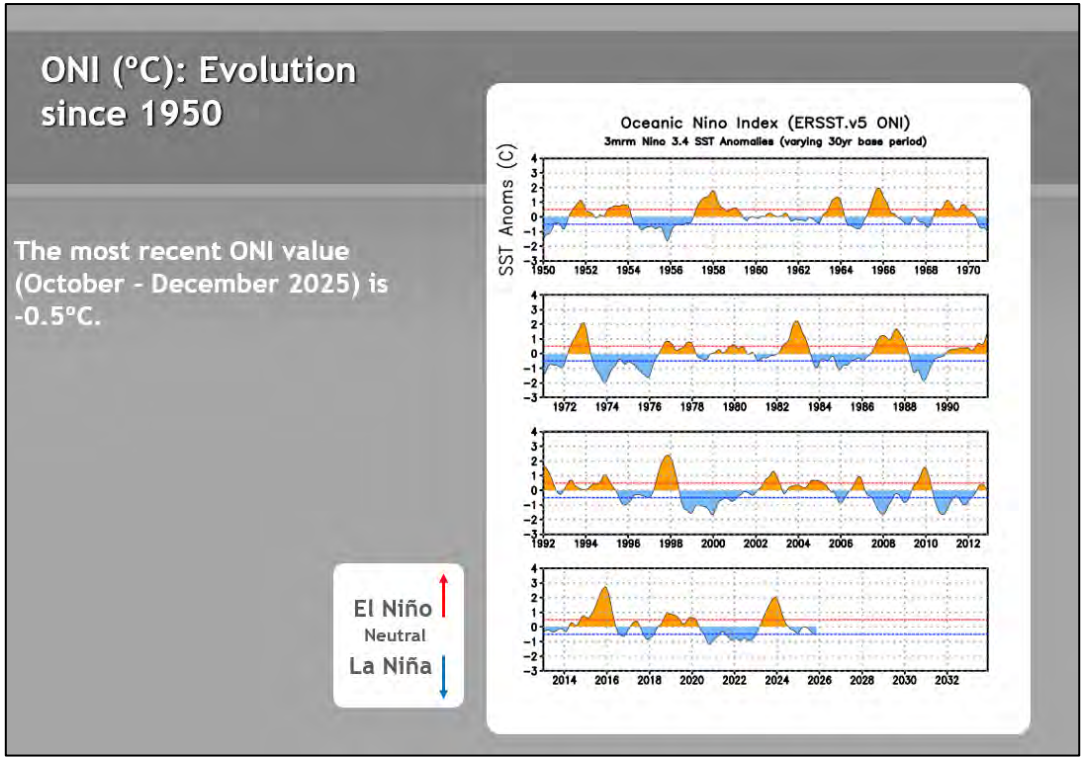


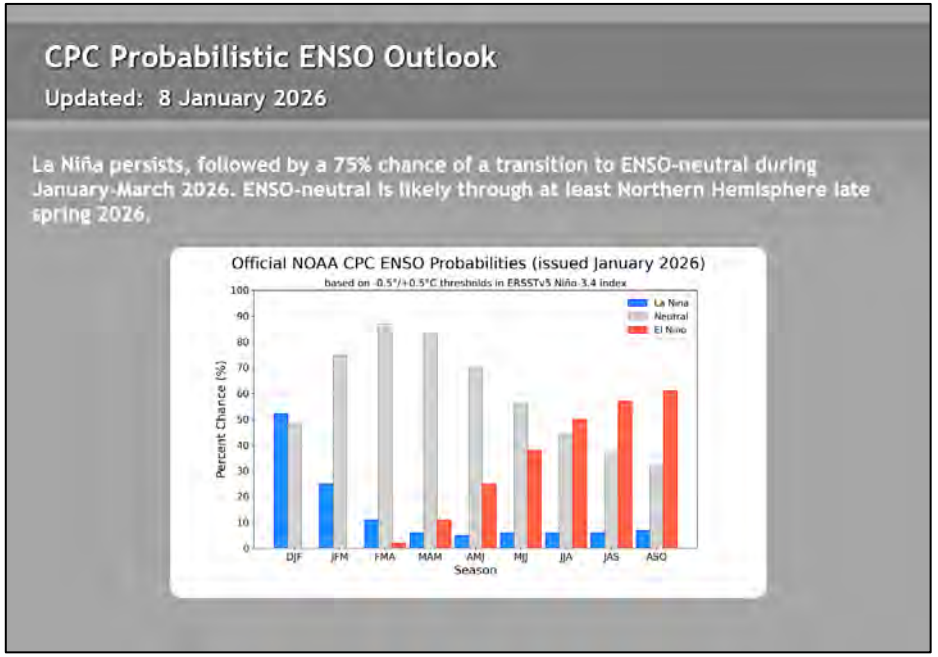
ENSO Notes from the CPC (1/8/26 Update)

ENSO Alert System Status: [La Niña Advisory]

La Niña persists, followed by a 75% chance of a transition to ENSO-neutral during January-March 2026. ENSO-neutral is likely through at least Northern Hemisphere late spring 2026.

ENSO, or El Nino Southern Oscillation, is a fluctuation in the sea surface temperature (SST) in the equatorial Pacific Ocean. Research has shown that even slight changes in the SST, particularly in area 3.4, can influence weather in North America. Generally, when SSTs are lower than normal, known as La Nina, NC has drier than normal conditions and can have more fire occurrence. However, La Nina also can lead to more tropical activity. El Nino, on the other hand, usually means wetter weather for NC, but less opportunity for tropical landfalls due to increased wind shear. In order to declare a La Nina, the departure from average SST must be at least -0.5° C (line shown in green) for 3 consecutive months. For El Nino, the departure must be at least 0.5° C above average for 3 consecutive months.





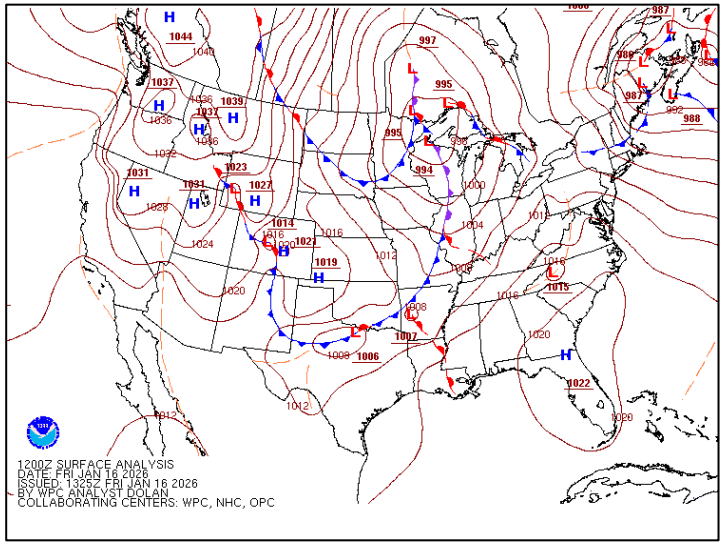
From the most recent CPC Diagnostic Discussion (ENSO Diagnostics Discussion):

The IRI multi-model predictions indicate ENSO-neutral will emerge during January-March (JFM) 2026 [Fig. 6]. In conjunction with the North American Multi-Model Ensemble, the team favors ENSO-neutral to develop during JFM 2026. Even after equatorial Pacific SSTs transition to ENSO-neutral, La Niña may still have some lingering influence through the early Northern Hemisphere spring 2026 (e.g., CPC's seasonal outlooks). For longer forecast horizons, there are growing chances of El Niño, though there remains uncertainty given the lower accuracy of model forecasts through the spring. In summary, La Niña persists, followed by a 75% chance of a transition to ENSO-neutral during January-March 2026. ENSO-neutral is likely through at least Northern Hemisphere late spring 2026 [Fig. 7].

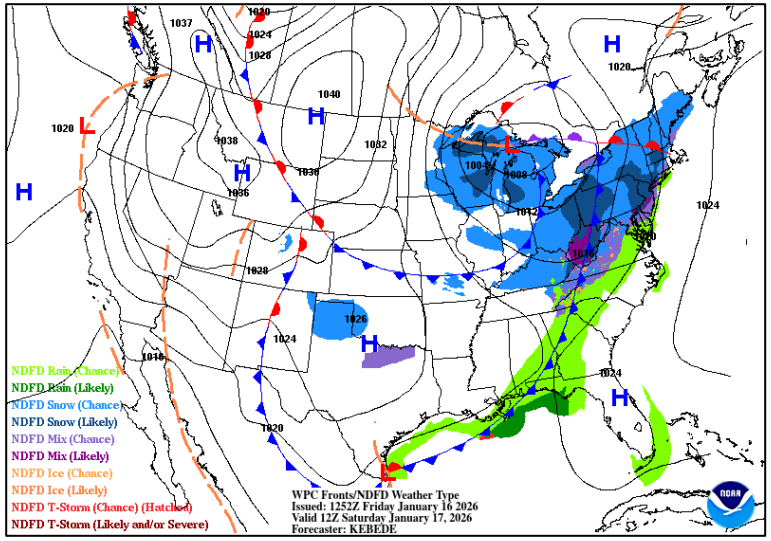
Slide Source: *https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.ppt*

WPC Forecasted Surface Fronts & Sea-Level Pressures

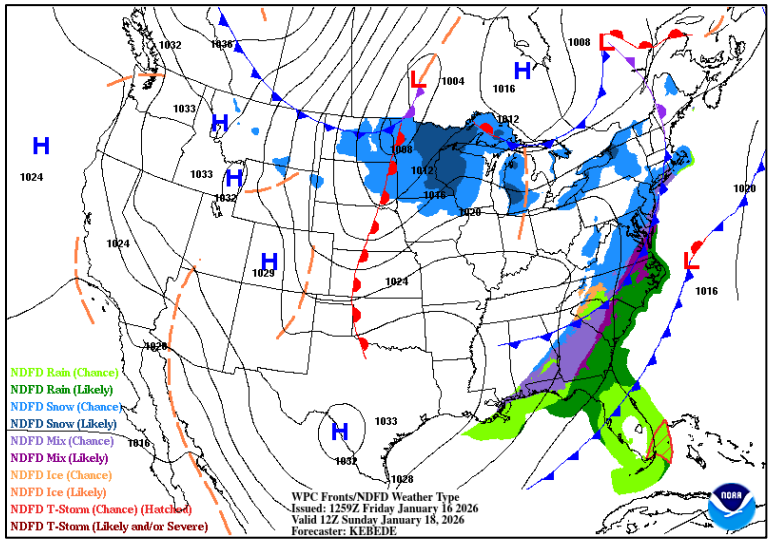
Day-1 @ 12Z Surface Analysis



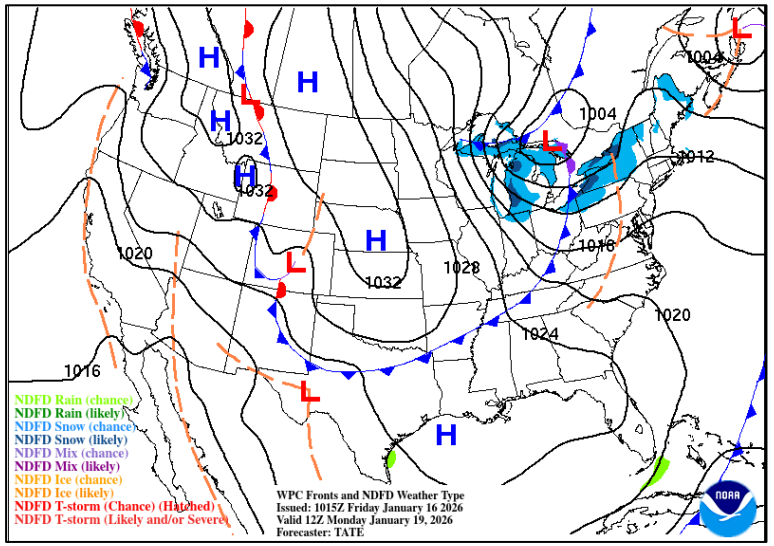
Day 2 - @ 12Z (0700 EST)



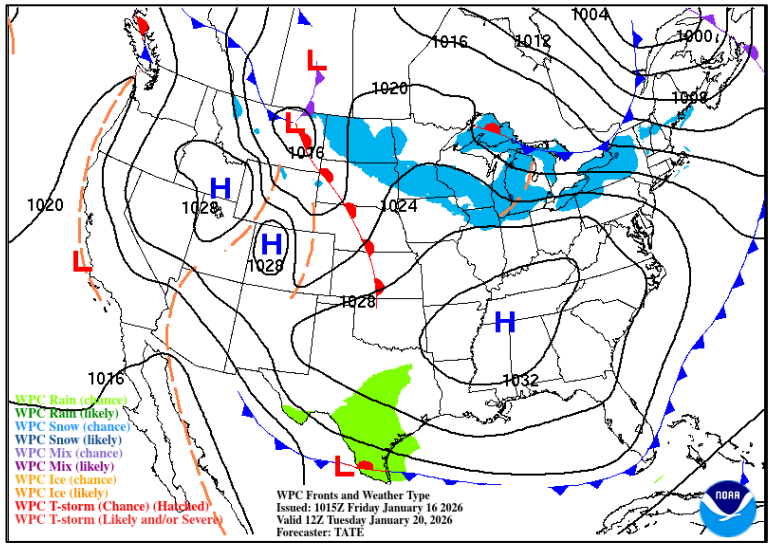
Day 3 @ 12Z (0700 EST)



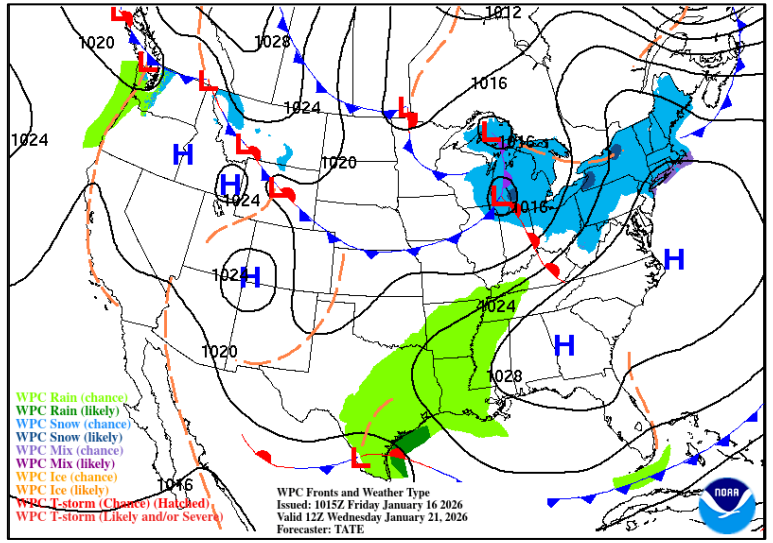
Day 4 @ 12Z (0700 EST)



Day 5 @ 12Z (0700 EST)



Day 6 @ 12Z (0800 EST)

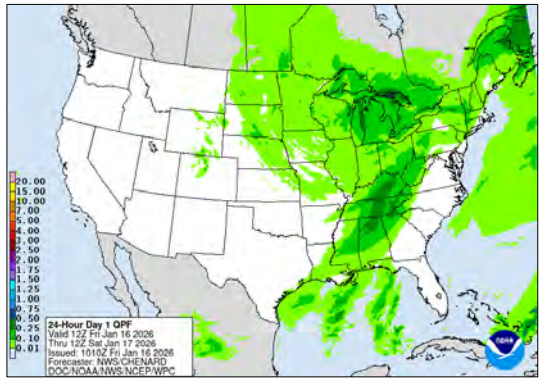


Location: https://www.wpc.ncep.noaa.gov/#

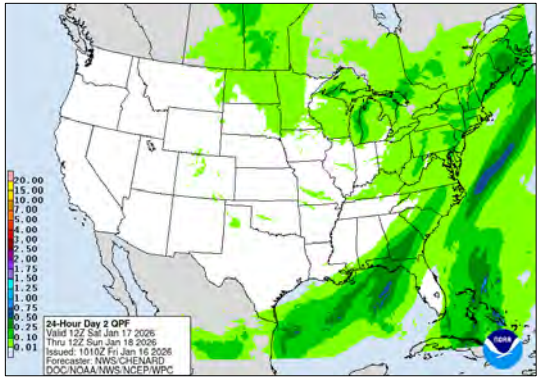
Quantitative Precipitation Forecast, 7-Day

Location: https://www.wpc.ncep.noaa.gov/#

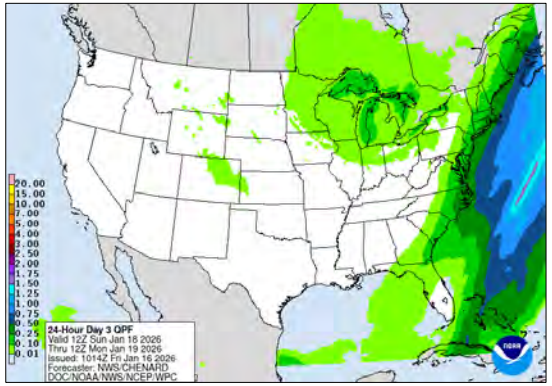
Day – 1



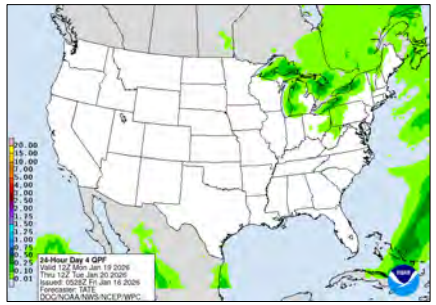
Day - 2



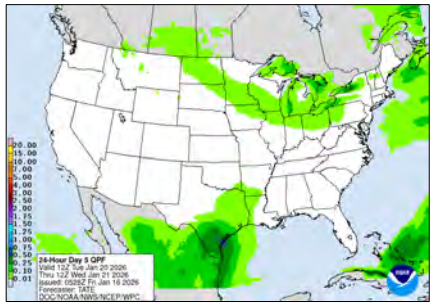
Day - 3



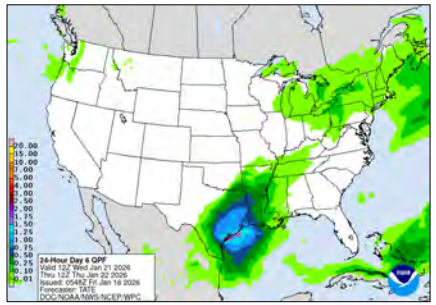
Day - 4



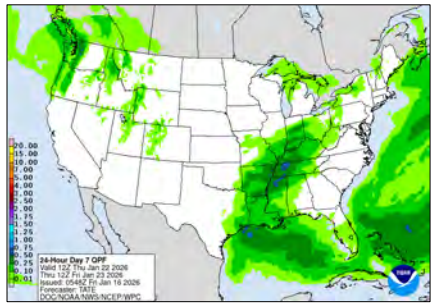
Day - 5



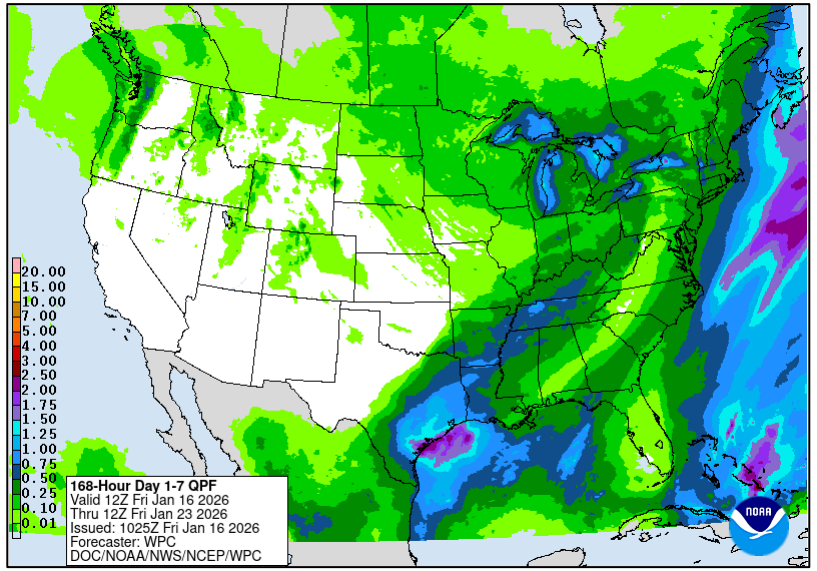
Day - 6



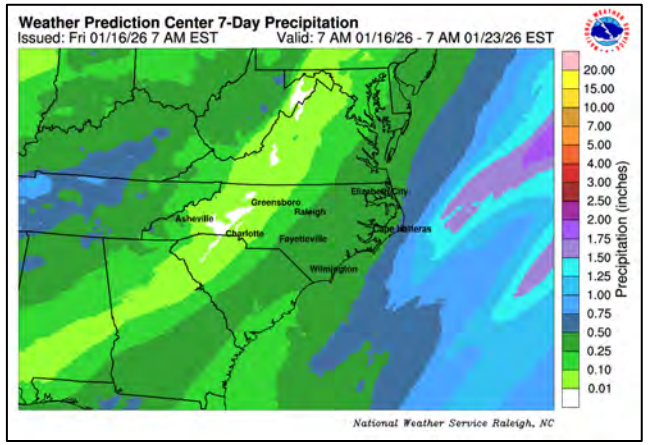
Day - 7

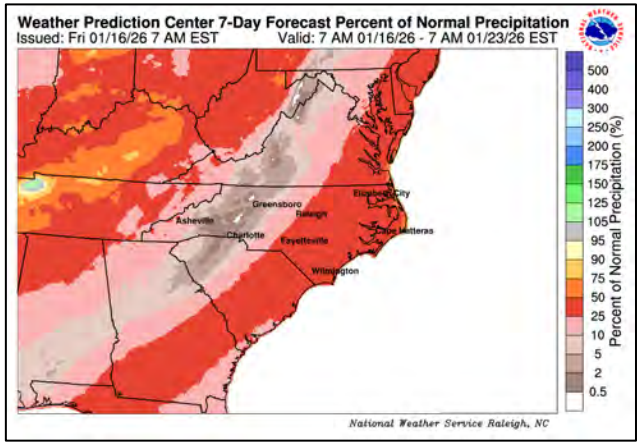


Days 1 – 7 QPF



Zoom - Days 1 – 7 QPF

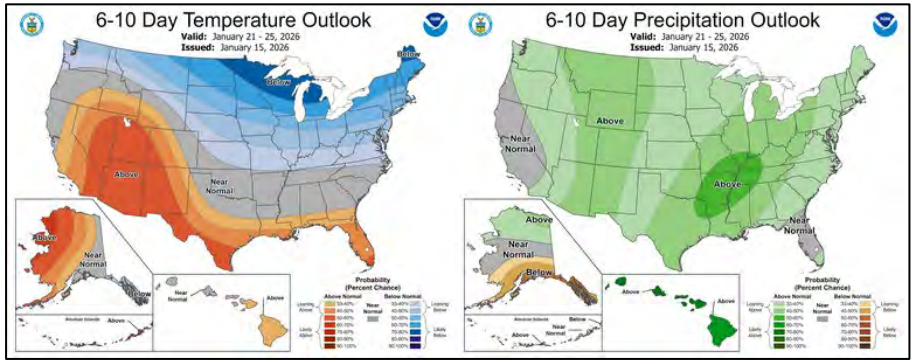


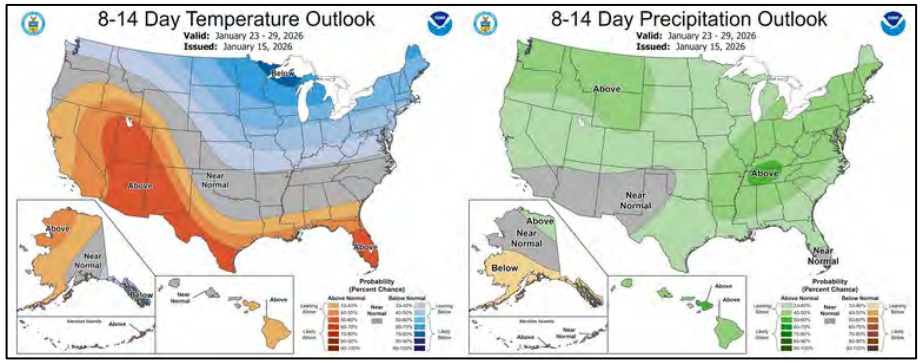


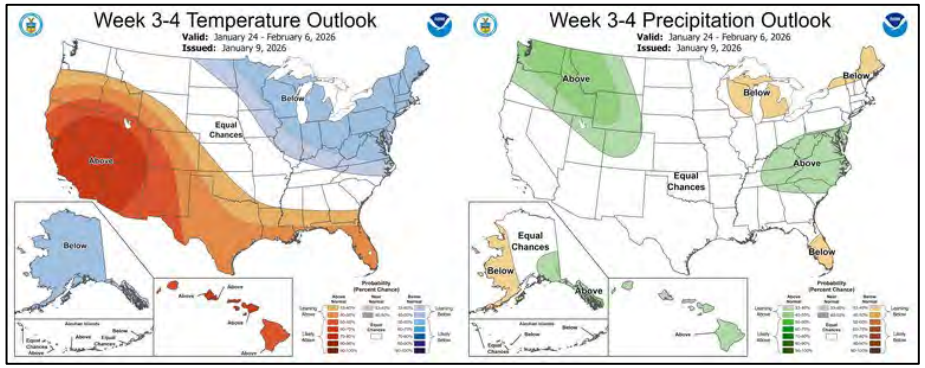
Favoring minimal precip for the next week, especially later in the period.

Temp & Precip Outlook

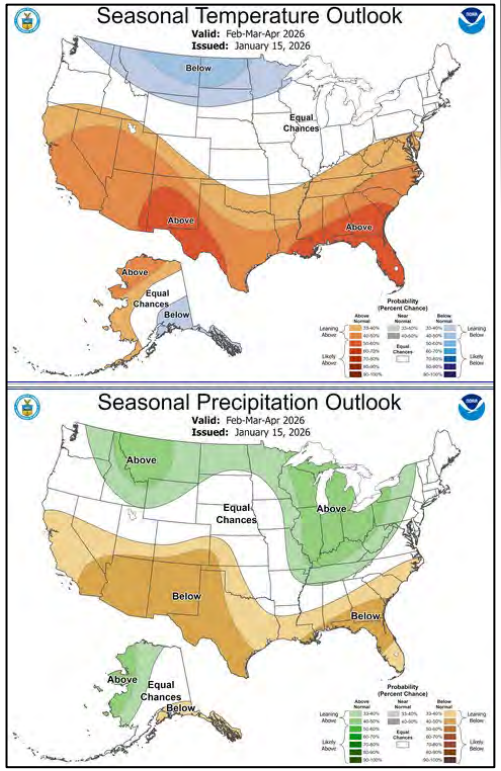
6-10 Day, 8-14 Day, Weeks 3-4, Seasonal (F/M/A, M/A/M, A/M/J)



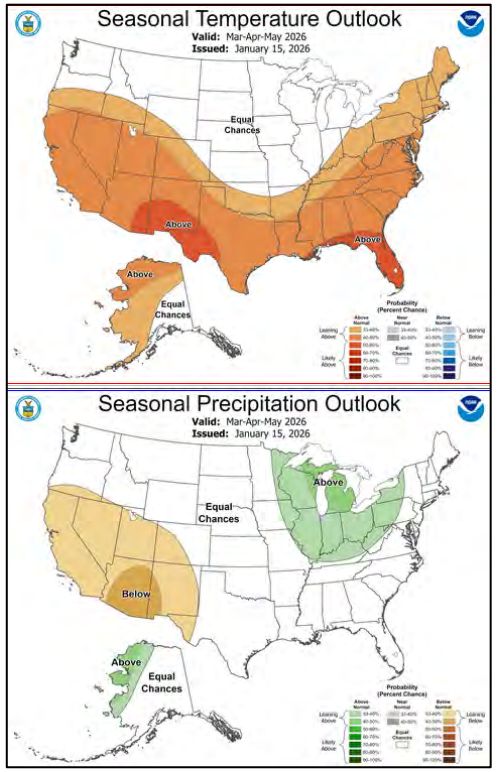




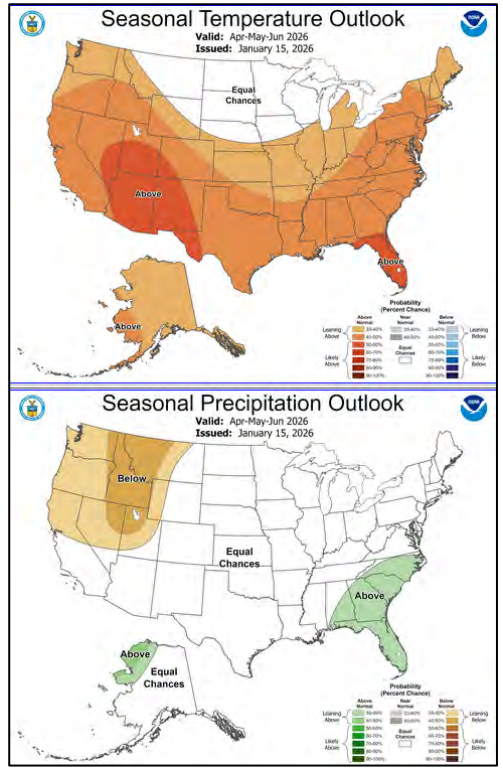
Feb-Apr



Mar-May



Apr-June



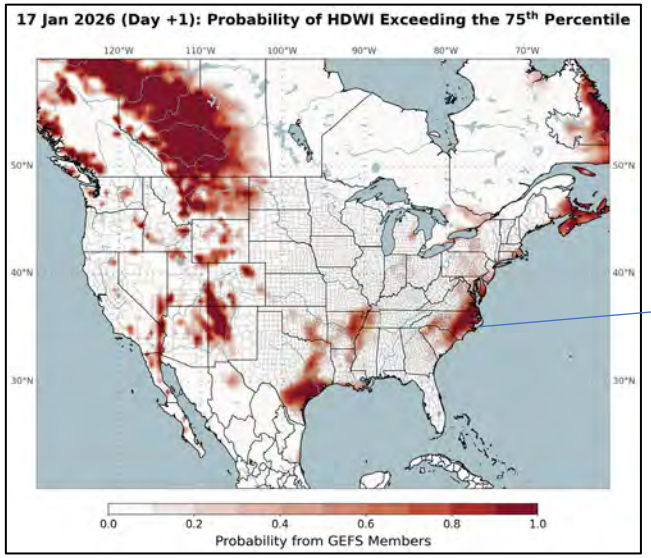
Last Updated by CPC on January 15th

Source: https://www.cpc.ncep.noaa.gov/

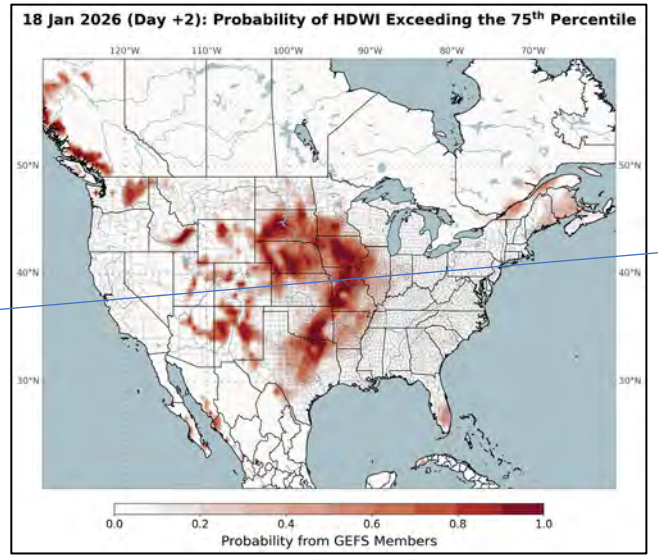
https://www.cpc.ncep.noaa.gov/products/predictions/long_range/fxus05.html

Hot-Dry-Windy Index (HDW)

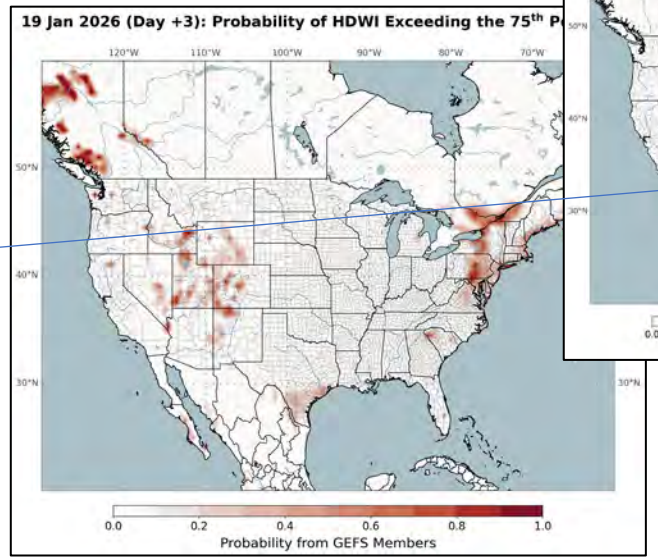
Saturday > 75th Percentile



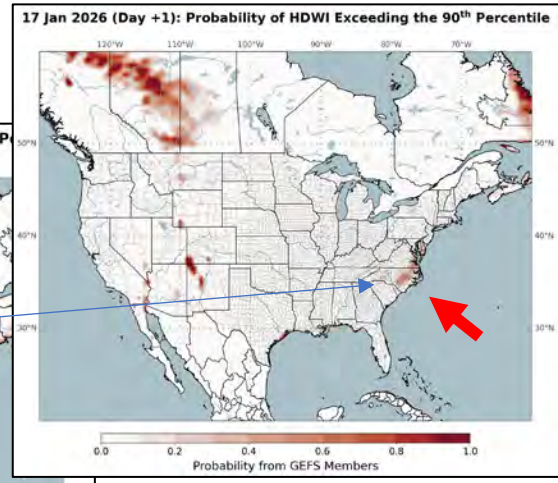
Sunday > 75th Percentile



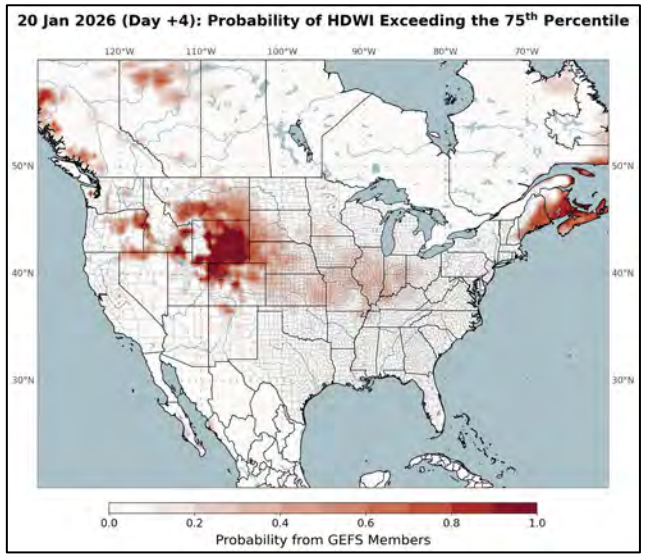
Monday > 75th Percentile



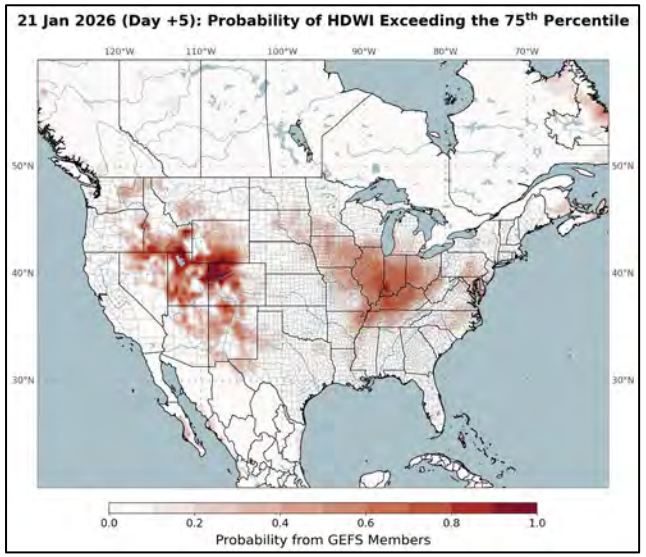
Saturday > 90th Percentile



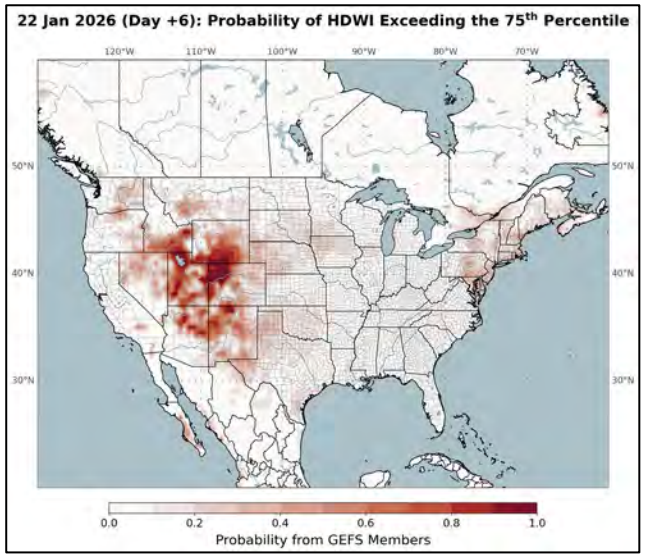
Tuesday > 75th Percentile



Wednesday > 75th Percentile



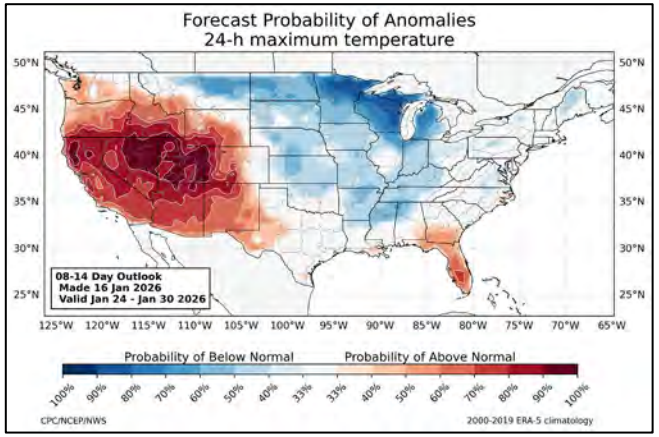
Thursday > 75th Percentile

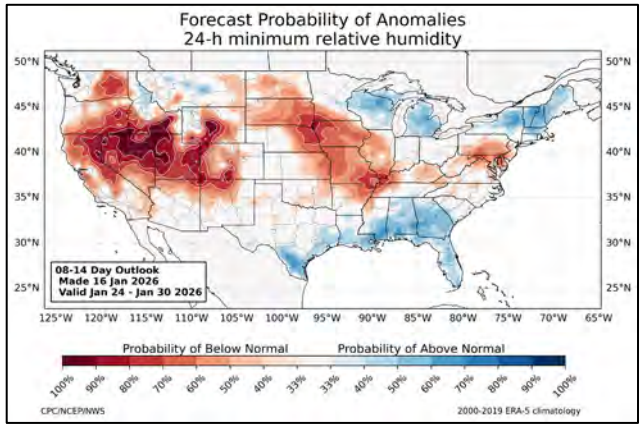


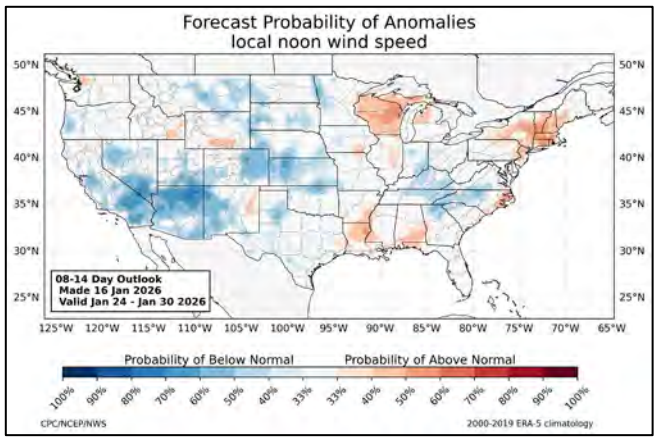
- Another visualization tool to pick up on broader weather, but with *limitations
- Only uses Max VPD (atmospheric moisture & temp) & Max Wind Speed to generate outputs
- Coarse Resolution - 0.5 Degree Grid
- No Account of Local Fuel Conditions and Topo

https://www.hdwindex.org/probs.html

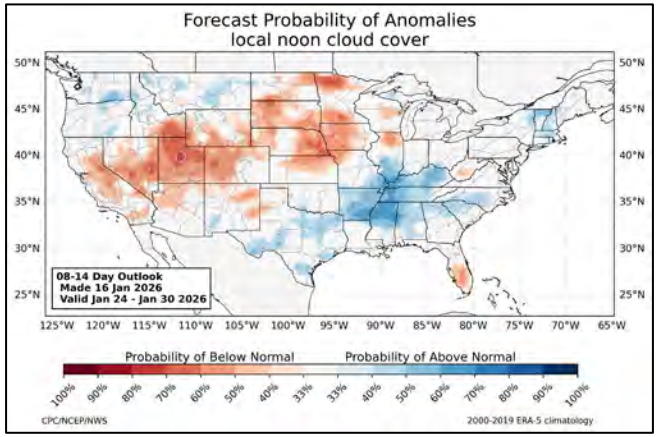
Week Two Forecast Anomalies: 1/24 - 1/30

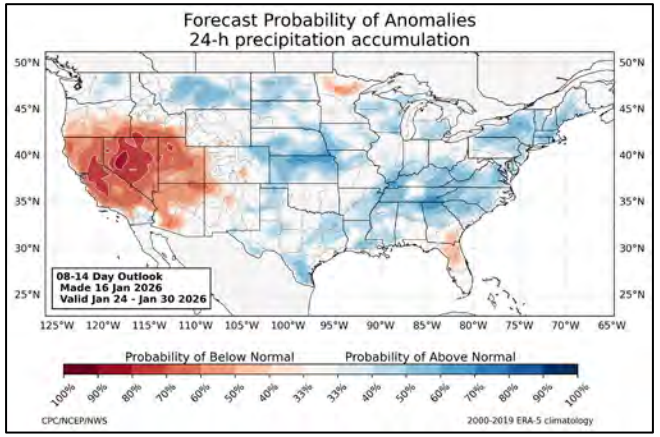






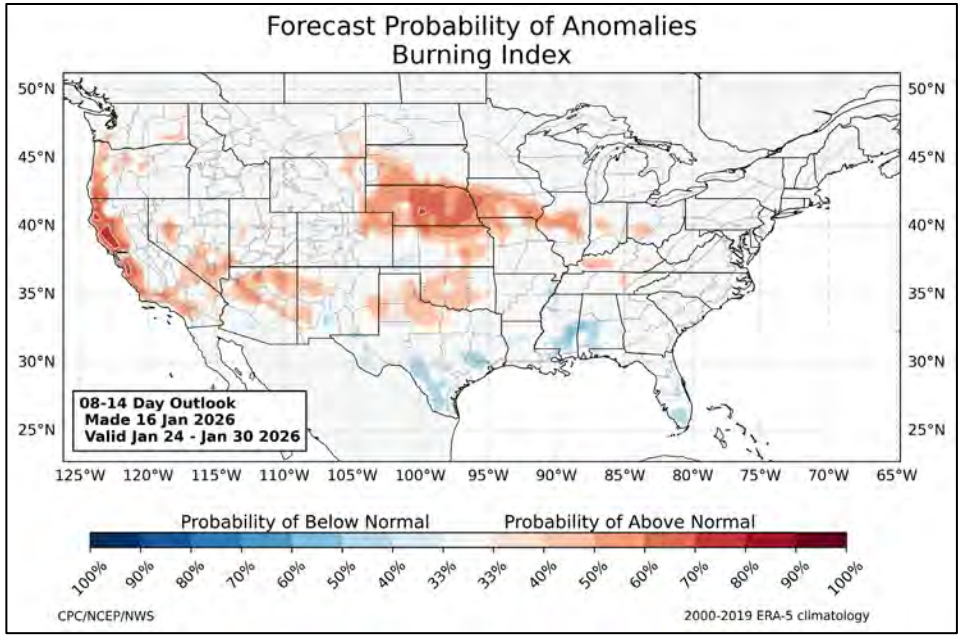
https://www.cpc.ncep.noaa.gov/products/extremes/fire-weather/cpc_wk2fw_index.html

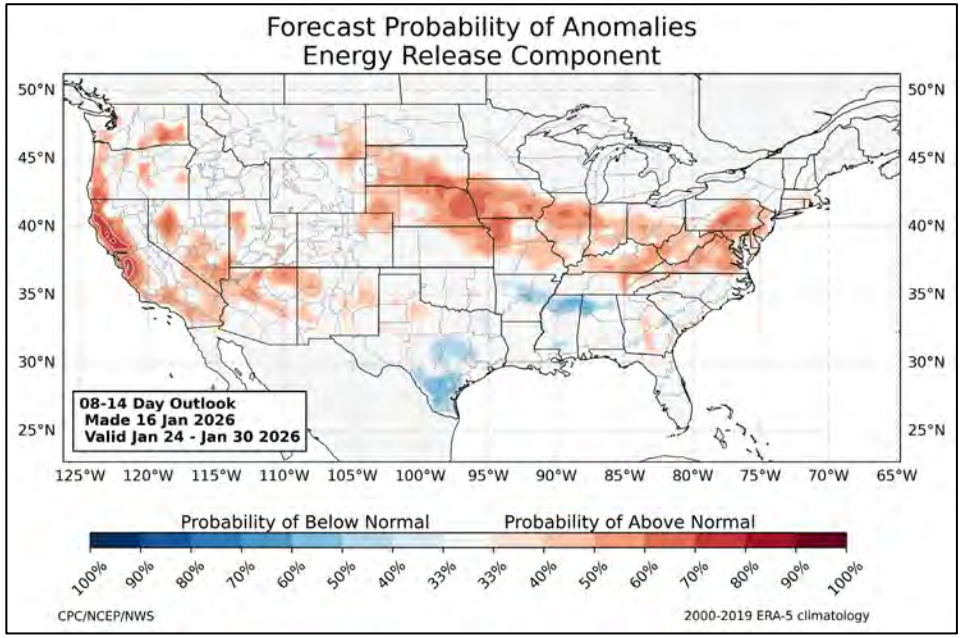




Important to note that there is significant forecast uncertainty as you go further out in time.

Favoring more normal temps & RH's, along with better precip potential west. Model then applies those weather variables to show potential for near normal ERC and BI at week two. However, still need to consider seasonality & existing drought related influences.

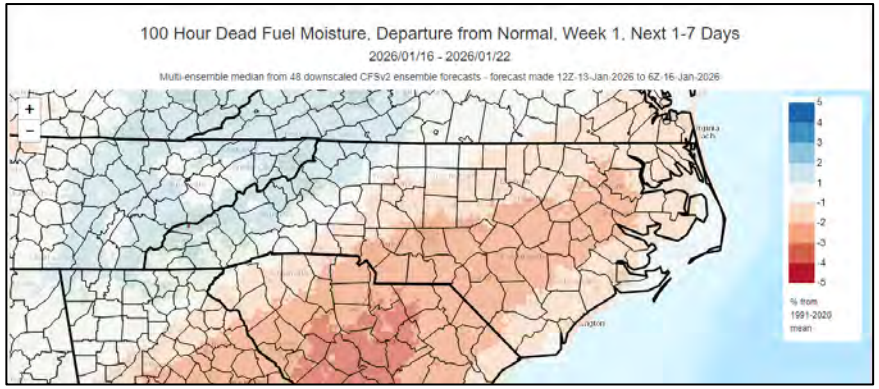




Modeled Departure from Normal by Week: 100-hr Fuels

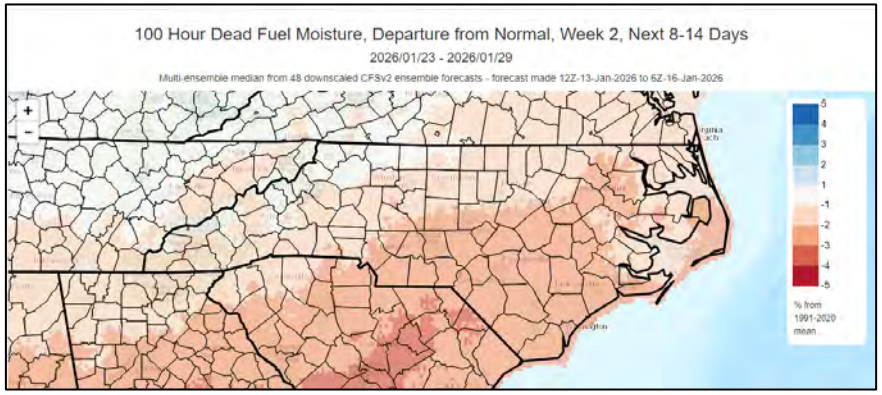
Output relies on experimental forecast outputs and is subject to change

Week-1



This output can provide insight into general drying trends and potential impacts to overall fire danger, especially prior to full green-up or in drought conditions. Outputs relate to interactions of warmer/colder temps, moist/dry air masses, precip amt/duration, wind and overnight RH recovery trends.

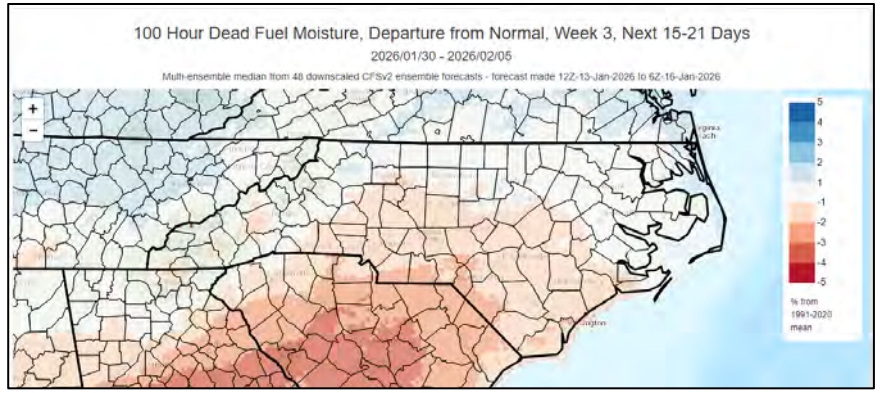
Week-2



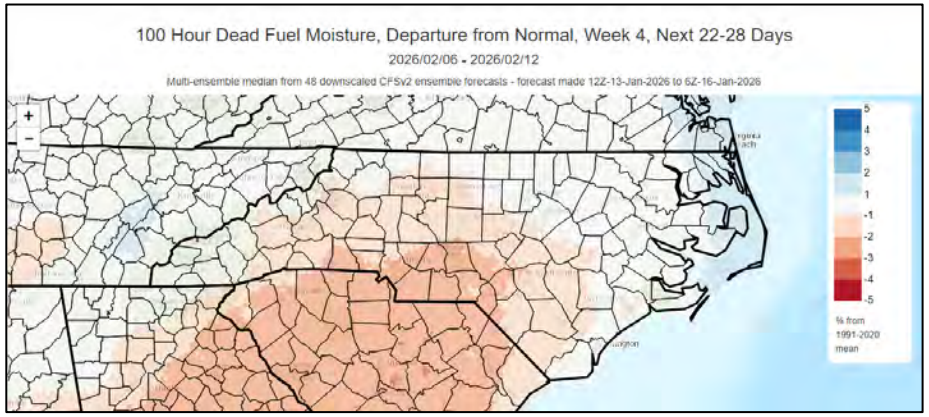
Note that <u>modeled</u> impacts of warmer/drier conditions (lower % mc or "worse") is focused most intensely on Weeks1-2 for most of NC.

Important to note that there is significant forecast uncertainty as you go further out in time, especially relating to any potential storm tracks.

Week-3



Week-4



From: https://climatetoolbox.org/tool/Climate-Mapper

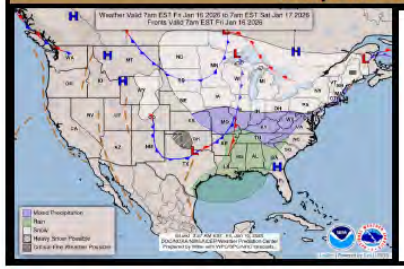
SACC Daily Outlook, Selected Snips from Friday – 1/16

https://gacc.nifc.gov/sacc/resources/predictive/sacc-daily-outlook.pdf

SACC Daily Outlook

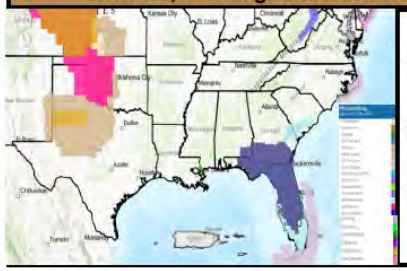
Friday, January 16, 2026

Today's Weather Outlook



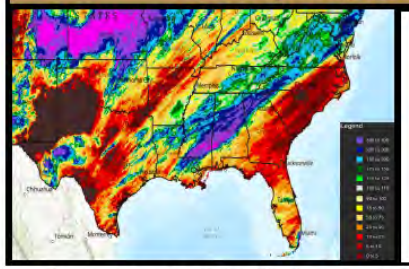
- A cold front will move through the Southern Area today through Sunday.
- Ahead of it, there is a potential for showers, with a rain/snow mix in the Appalachians, KY,and eastern TN, and rain to the south today.
- Tomorrow, the air mass across most of the Southern Area should be cold enough for a rain/snow mix to be possible from the northern Gulf coast, north.
- Gusty conditions should be expected behind the cold front today, especially in TX and OK.
- A very dry air mass will also move in behind the front

Watches, Warnings and Advisories as of 8 am EST This Morning



- There are **Red Flag Warnings** in effect for Central/West OK and the eastern portion of the TX/OK Panhandles through this evening.
- There are **Cold Weather Advisories and Freeze Warnings** in effect for FL, Southeast AL, South GA, and southern SC through this morning.
- There are **Wind Advisories** in North and NW TX, and west and Central OK through this evening.

7-Day Percent of Normal Precipitation



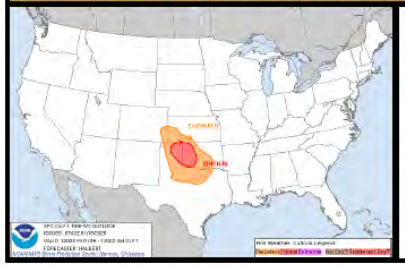
- The Southern Area continues to be mostly dry for with only isolated to scattered reports of wetting rain or rainfall equivalent over the last week, mainly from southern MS, NE into AL, N GA, W NC, and VA..
- Light showers are possible for most of the Southern Area over the next 4 to 5 days, although most of the accumulations are forecast to be a half inch or less.
- The TX coast, East TX, and western LA may see some significant rain Tuesday through Thursday of next week,

Please contact your local National Weather Service office for spot forecasts and the latest watches and warnings.

SACC Daily Outlook

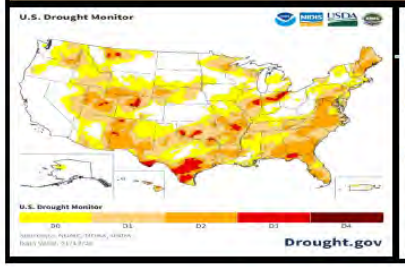
Friday, January 16, 2026

SPC's Fire Weather Outlook Through Tomorrow Morning



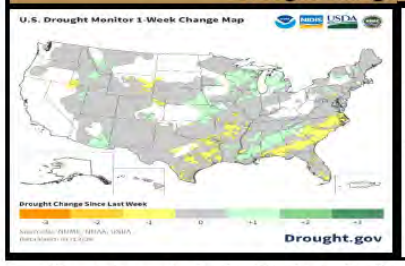
- The Storm Prediction Center has placed the eastern portion of the TX/OK Panhandles and western OK into a Critical Concern for fire weather today.
- There is a large area that SPC has place in an Elevated concern, which includes the TX/OK Panhandles, West and Central OK, and N TX.

Current Drought Monitor



- Most of the SOUthern Area remains under at least a D0 condition.
- The driest areas are in South TX, The Trans-Pecos, OK, AR, NW FL, and a sliver of SW GA.
- The areas not in any condition and in Central TX, NW OK, the OK Panhandle, northern KY, and a small areaaround E LA, and a very small portion of SW MS.

Drought Change From Last Week



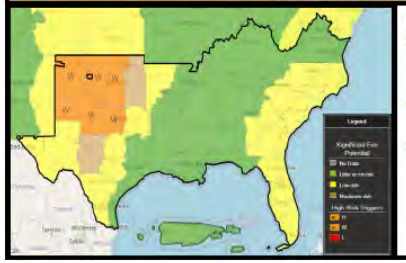
- There has been large areas of improvement since last week, mainly in a swath from East LA, MS, Central/North AL, N GA, and the Mts of SC/NC.
- There has been development or degradation in conditions, mainly in South and East TX, AR, S AL, S GA, NW FL, SC, and NC.

Please contact your local National Weather Service office for spot forecasts and the latest watches and warnings.

SACC Daily Outlook

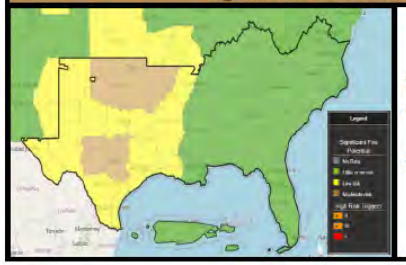
Friday, January 16, 2026

Significant Potential for Today



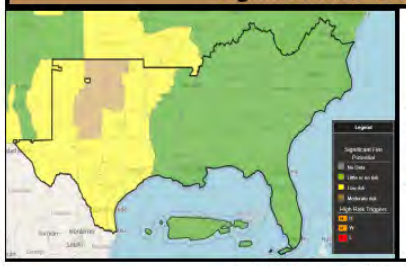
- **High Risk:** The TX/OK Panhandles, North TX, West/Central OK for low RH, gusty conditions, and dry fuels.
- **Moderate Risk:** East OK and west Central TX for low RH, breezy conditions, and dry fuels.
- **Low Risk:** South/West/east Central TX, the Rio Grande Plain north and south, East TX north, West AR, SC, Central/coastal plain/coastal NC, Central/South/coastal GA, and NE/Central/South FL for low RH and dry fuels.

Significant Fire Potential for Tomorrow



- **High Risk:** None.
- **Moderate Risk:** Central TX, OK, and West AR for low RH, breezy conditions, and dry fuels.
- **Low Risk:** TX, TX/OK Panhandles, East AR,and Western/southern LA for low RH and dry fuels.

Significant Fire Potential for Sunday



- **High Risk:** None.
- **Moderate Risk:** West/Central OK, and NW TX for low RH, breezy conditions, and dry fuels.
- **Low Risk:** TX, East OK, and West AR for low rh and dry fuels.

National 7-Day Significant Fire Potential Outlook

Significant Wildland Fire Potential Outlook: *Updated 1/2/26*

January

February

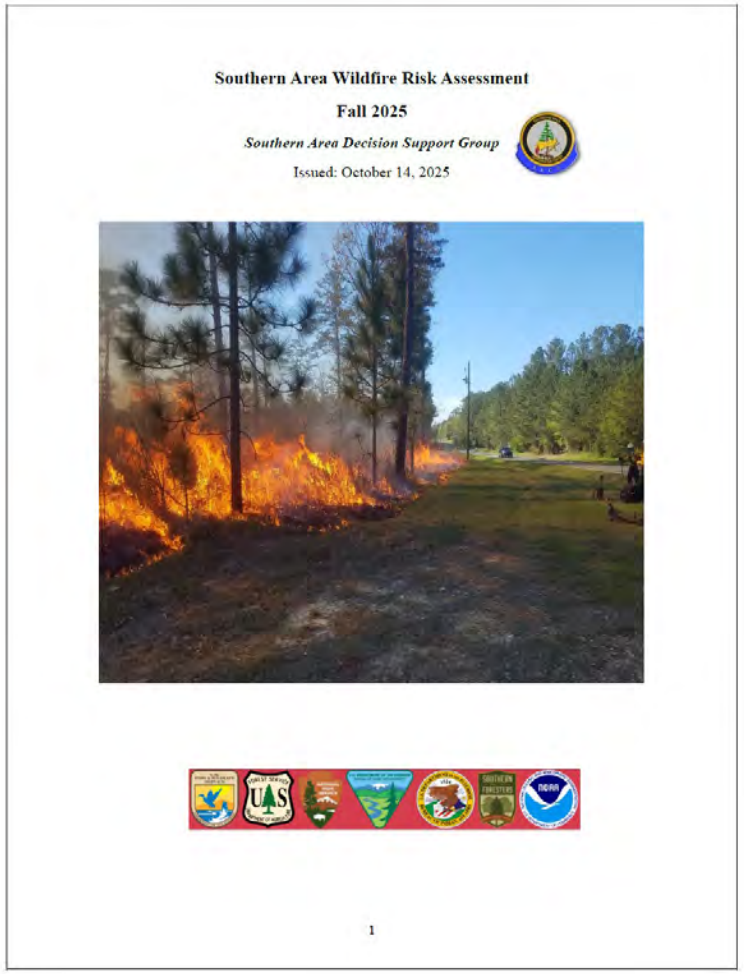
March

April

**A significant fire is one that requires resources from outside the district (other than aviation). IA potential is based more on shorter term weather factors. Just a few days of dry weather can increase IA activity considerably as we have consistently seen from year to year.*

https://www.nifc.gov/nicc-files/predictive/outlooks/monthly_seasonal_outlook.pdf

Southern Area – Fall 2025 Wildfire Risk Assessment



Southern Area Wildfire Risk Assessment

Fall 2025

Southern Area Decision Support Group

Issued: October 14, 2025

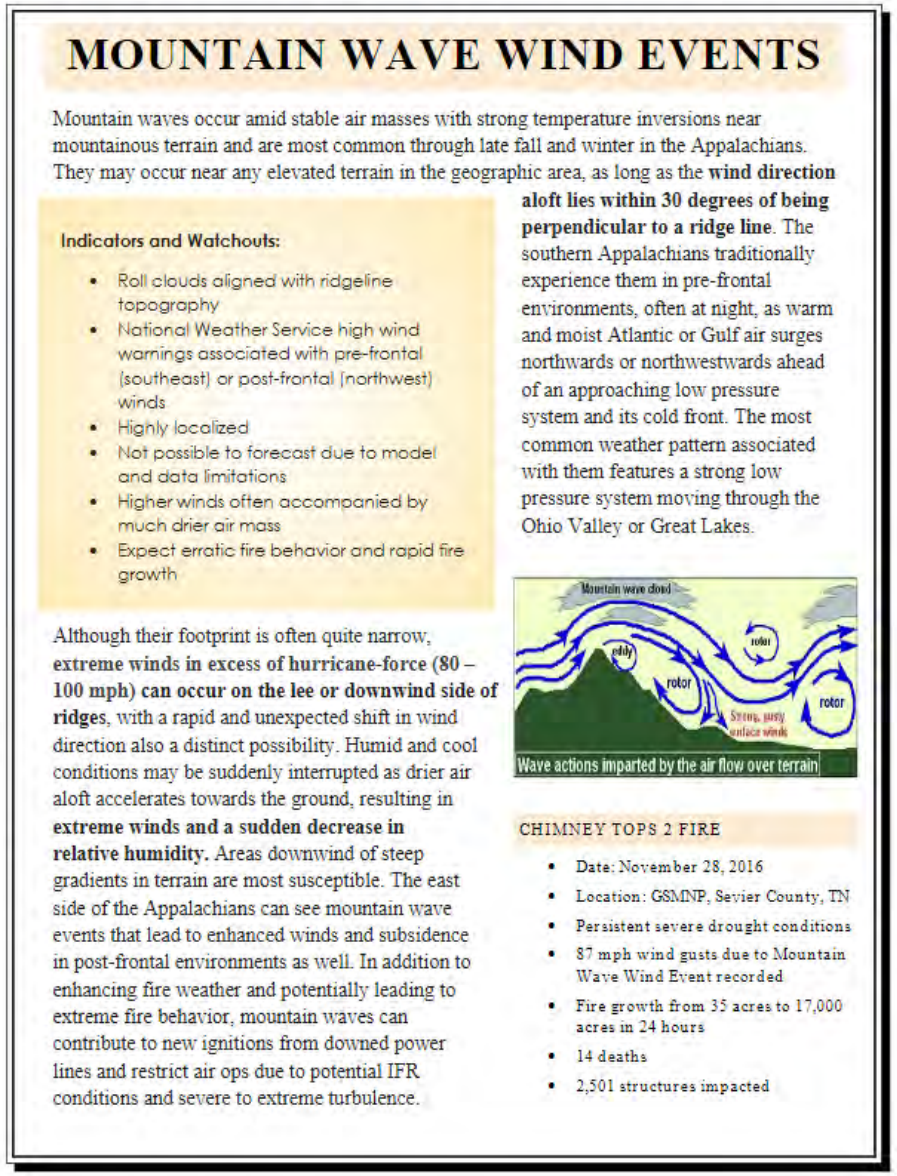
1

Please review the SA Wildfire Risk Assessment for Fall 2025 – it discusses overall regional concerns as well as fire effective weather patterns.

Take special note of "Appendix A – Critical Fire Weather and Environmental Conditions" starting on page 58. This is useful for anytime of year.

https://gacc.nifc.gov/sacc/resources/predictive/SAFallRiskAssessment_2025_final.pdf

Southern Area – Mountain Wave Wind Event Note



MOUNTAIN WAVE WIND EVENTS

Mountain waves occur amid stable air masses with strong temperature inversions near mountainous terrain and are most common through late fall and winter in the Appalachians. They may occur near any elevated terrain in the geographic area, as long as the **wind direction aloft lies within 30 degrees of being perpendicular to a ridge line**. The southern Appalachians traditionally experience them in pre-frontal environments, often at night, as warm and moist Atlantic or Gulf air surges northwards or northwestwards ahead of an approaching low pressure system and its cold front. The most common weather pattern associated with them features a strong low pressure system moving through the Ohio Valley or Great Lakes.

Indicators and Watchouts:

- Roll clouds aligned with ridgeline topography
- National Weather Service high wind warnings associated with pre-frontal (southeast) or post-frontal (northwest) winds
- Highly localized
- Not possible to forecast due to model and data limitations
- Higher winds often accompanied by much drier air mass
- Expect erratic fire behavior and rapid fire growth

Although their footprint is often quite narrow, **extreme winds in excess of hurricane-force (80 – 100 mph) can occur on the lee or downwind side of ridges**, with a rapid and unexpected shift in wind direction also a distinct possibility. Humid and cool conditions may be suddenly interrupted as drier air aloft accelerates towards the ground, resulting in **extreme winds and a sudden decrease in relative humidity.** Areas downwind of steep gradients in terrain are most susceptible. The east side of the Appalachians can see mountain wave events that lead to enhanced winds and subsidence in post-frontal environments as well. In addition to enhancing fire weather and potentially leading to extreme fire behavior, mountain waves can contribute to new ignitions from downed power lines and restrict air ops due to potential IFR conditions and severe to extreme turbulence.

Wave actions imparted by the air flow over terrain

CHIMNEY TOPS 2 FIRE

- Date: November 28, 2016
- Location: GSMNP, Sevier County, TN
- Persistent severe drought conditions
- 87 mph wind gusts due to Mountain Wave Wind Event recorded
- Fire growth from 35 acres to 17,000 acres in 24 hours
- 14 deaths
- 2,501 structures impacted

https://gacc.nifc.gov/sacc/predictive/outlooks/MountainWavesFactSheet.pdf

R2 Notes from 1/12/26

Summary

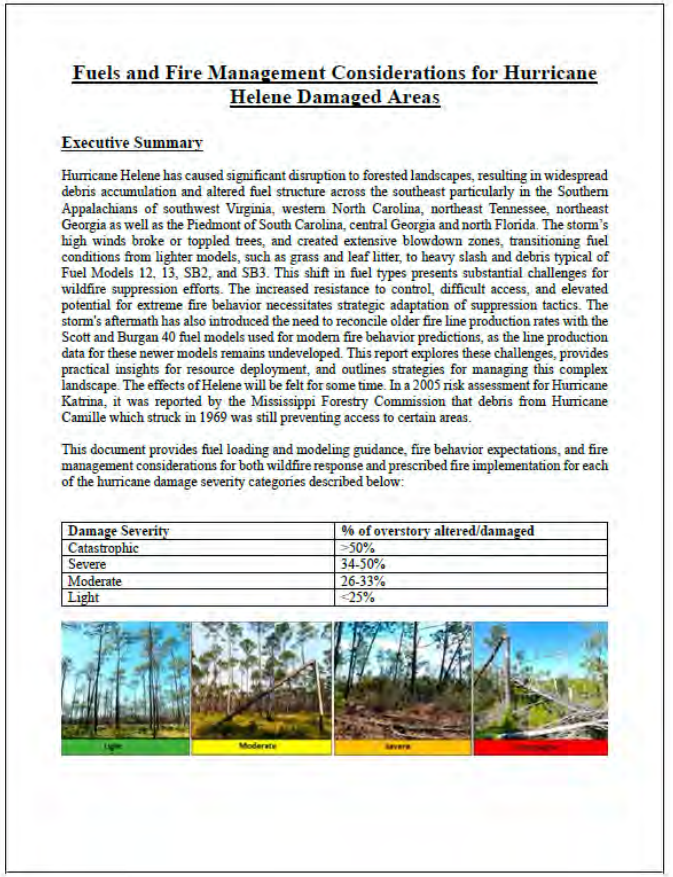
- Region 2 is coming into January very dry.
- NW Region 2 received good rain this weekend, rest of Region received no rain.
- Drought persistent and worsening over entire Region.
- Fire Behavior is intensifying in drought effected fuels.
- KBDI's have been over 400 in several Sandhill Stations since September.
- Please advise all RX-Burners to proceed with caution. Many escapes this Sunday were on RX burns that had been intensively mopped up and monitored.
- Wildfire Outlook has All of Region 2 under Above Average Chance of Significant Wildfire Potential.

See Fire Behavior in picture from D3 taken at 2350 on 1/11/26.

Helene Fuels Note:

- See next two slides for a few visuals/reminders about Helene Impact Areas regarding safety, planning and related.

- Remember the "Fuels and Fire Management Considerations for Hurricane Damaged Areas" document is available as a potential aid.



Fuels and Fire Management Considerations for Hurricane Helene Damaged Areas

Executive Summary

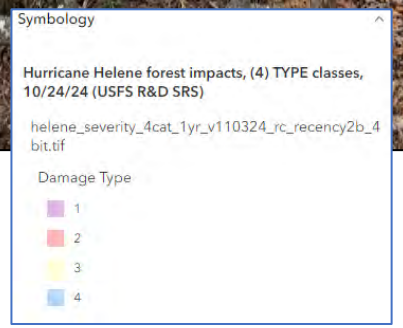
Hurricane Helene has caused significant disruption to forested landscapes, resulting in widespread debris accumulation and altered fuel structure across the southeast particularly in the Southern Appalachians of southwest Virginia, western North Carolina, northeast Tennessee, northeast Georgia as well as the Piedmont of South Carolina, central Georgia and north Florida. The storm's high winds broke or toppled trees, and created extensive blowdown zones, transitioning fuel conditions from lighter models, such as grass and leaf litter, to heavy slash and debris typical of Fuel Models 12, 13, SB2, and SB3. This shift in fuel types presents substantial challenges for wildfire suppression efforts. The increased resistance to control, difficult access, and elevated potential for extreme fire behavior necessitates strategic adaptation of suppression tactics. The storm's aftermath has also introduced the need to reconcile older fire line production rates with the Scott and Burgan 40 fuel models used for modern fire behavior predictions, as the line production data for these newer models remains undeveloped. This report explores these challenges, provides practical insights for resource deployment, and outlines strategies for managing this complex landscape. The effects of Helene will be felt for some time. In a 2005 risk assessment for Hurricane Katrina, it was reported by the Mississippi Forestry Commission that debris from Hurricane Camille which struck in 1969 was still preventing access to certain areas.

This document provides fuel loading and modeling guidance, fire behavior expectations, and fire management considerations for both wildfire response and prescribed fire implementation for each of the hurricane damage severity categories described below:

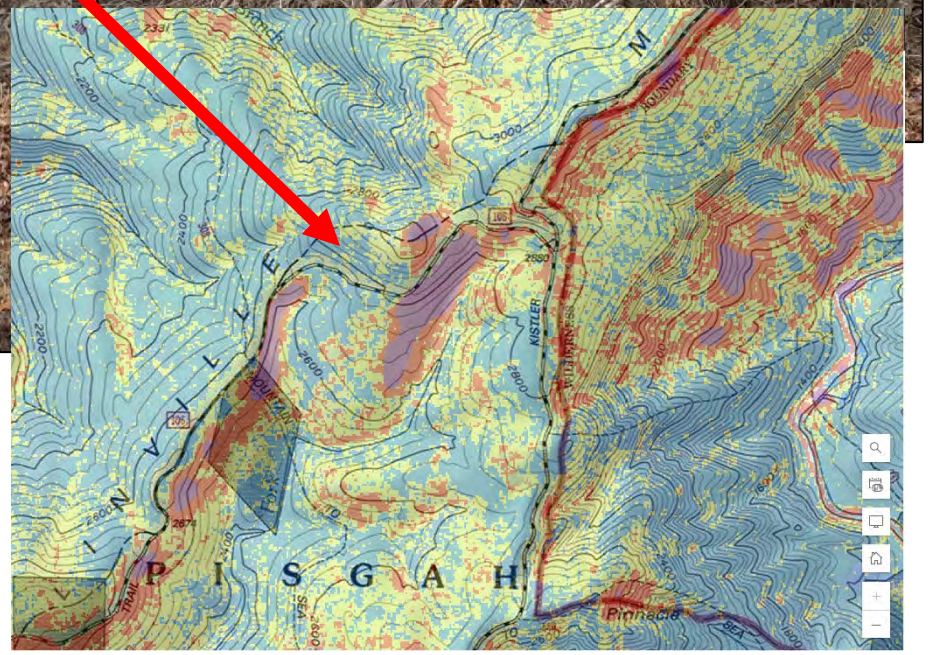
Damage Severity	% of overstory altered/damaged
Catastrophic	>50%
Severe	34-50%
Moderate	26-33%
Light	<25%

Helene Fuels

Burke County/Old NC 105 - Dobson Knob USFS Road Area: 1/14/26
After a year + of curing, canopies still attached, many partially uprooted hardwoods not entirely "dead", aerial snags curing, "jackstrawed" fuels. Topo overlay at bottom from HiForm Helene datasets.



https://usfs.maps.arcgis.com/home/item.html?id=e5cb5d890df541ad87d1c89260b24dfc



Yancey County/Near Jessen RAWS Example: 1/26
Canopy still attached from original Helene damage in 2024. Elevated exposure allowing air flow, heating, etc.

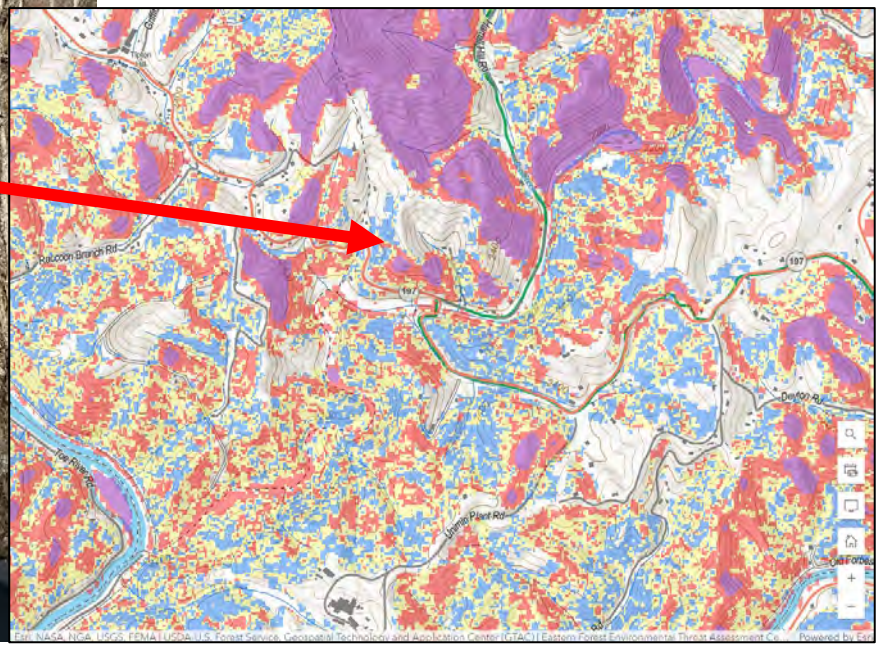
Mitchell County/Pigeon Roost Road Example: 1/26
Fuel Accumulations and Curing Image near residential properties.

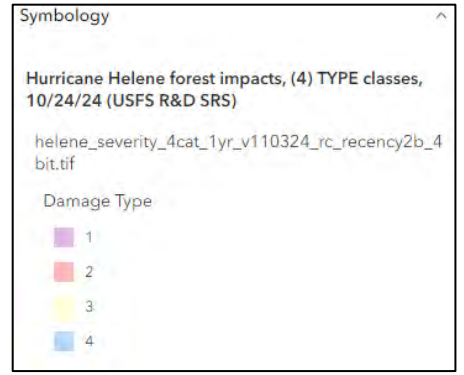
Helene Fuels

Mitchell Co/NC-197 & Big Rock Creek Example: Top Right Image from 4/24
Left Bottom Image: 1/26

Note pine decay after hurricane damage, bark sloughing off snags, etc. South Aspect

Consider safety implications not only from fuel receptivity, but aerial and rolling hazards, etc.





https://usfs.maps.arcgis.com/home/item.html?id=e5cb5d890df541ad87d1c89260b24dfc

FEMS Reminders

Weather Stations

•State Mesonet Stations (e.g., NC ECONet) are in process of being added.

Several North Carolina FDRAs rely on stations from alternate gateway sources (SCO ECONet).

For example, the East Piedmont FDRA utilized four of these ECONet stations.

•FEMS has recently incorporated ASOS and AWOS stations as a stopgap measure; however, these stations (e.g., RDU Airport) have no prior period of record & tend to be somewhat windier than missing ECONet Stations (example Asheville Regional Airport and RDU ASOS).

Live Fuel Moisture (LFM) Model

•Currently set to a national preliminary standard in FEMS.

•Four main drivers are used: Day Length, Minimum Temperature, Vapor Pressure Deficit, and Running Total Precipitation.

•The GSI-derived LFM Model standard settings create fundamental limitations that directly affect FM-V, FM-W, and FM-X.

•National standard settings do not allow regional adjustments for local growing conditions. This will evolve over time as bugs are addressed, stations are added, and further analysis is completed. Not an issue as we are still in dormancy, values default to minimum until Spring.

Data and Modeling Updates

•FF+ Databases have been recalculated to align with new FEMS standards (see earlier documentation).

•For this interim update of the NC FDOP's data, Fuel Model - Z has been used, due to the known LFM limitations in the initial FEMS rollout.

•A reevaluation will be necessary as additional alternate gateway station types are integrated & regional GSI calibrations are carried out.

FDOP Revision Status

•NC FDOP updates were started but then paused to allow time for FEMS development through early summer 2025.

•This pause has been recommended nationwide to ensure consistency as development progresses.

•Interim breakpoints and model combinations have been established, with a complete revision needed once FEMS is adjusted further (earlier topics).

Overall

•Weather and fire occurrence data (**2010–2024**) have been processed to establish initial working breakpoints for FEMS/V4 outputs for North Carolina.

•Interim analysis has been completed – now driving fire danger products (e.g., adjective ratings and hazard levels) utilizing FM-Z and the 2010-2024 period of record.

•Remember to discontinue use of old NC Forest Service generated Pocket Cards from prior to the FEMS transition on 10/1/25.

•Replacement guidance material has been previously released (11/13/25).

Work at the national, regional, state, and FDRA levels will continue as FEMS is updated following rollout. FEMS link

FEMS - Fire Danger Rating Area Summaries:

Analysis Settings				Matrix Combinations	
FDRA	Time Range	Daily Extremes	FM	Staffing/Hazard Level	Adjective Rating
Northern Coastal Plain	2010-2024	Y	Z	ERC/BI	ERC
Southern Coastal Plain	2010-2024	Y	Z	ERC/BI	ERC
Eastern Piedmont	2010-2024	Y	Z	ERC/BI	ERC
Sand Hills	2010-2024	Y	Z	ERC/BI	ERC
Western Piedmont	2010-2024	Y	Z	ERC/BI	ERC
Blue Ridge Escarpment	2010-2024	Y	Z	ERC/IC	ERC
Central Mountains	2010-2024	Y	Z	ERC/IC	ERC
Northern Highlands	2010-2024	Y	Z	ERC/BI	ERC
Southern Highlands	2010-2024	Y	Z	ERC/IC	ERC

FDRA	Special Interest Group Stations (SIG Stations)	Missing SIG Stations
Northern Coastal Plain	Dare Bomb Range, Elizabeth City, Fairfield, Greens Cross, Pocosin Lakes NWR	0
Southern Coastal Plain	Beaufort, CL1 Sandy Run, New Bern, Turnbull Creek, Hofmann, Whiteville, Sunny Point, Finch's Station	0
Eastern Piedmont	Central Crops RS**, Lake Wheeler**, Oxford Tob RS**, Upper Coastal RS**, Warrenton, ASOS RDU AP, ASOS RM-Wilson AP	4
Sand Hills	Fort Bragg, Horseshoe House, Rockingham, Sandhills RS**, ASOS Laurinburg-Maxton AP	1
Western Piedmont	Caswell Game Land, Duke Forest, Lexington, Mt Island Lake	0
Blue Ridge Escarpment	North Cove Pinnacle, Raven Knob, Redezvous Mtn, Rutherford Co Hq, Taylorsville (Lenior)	0
Central Mountains	Davidson River, Guion Farms, Mtn Hort RS**, Seven Mile Ridge, ASOS Asheville Regional AP	1
Northern Highlands	Busick, Jessen Station, Upper Mtn RS**, Laurel Springs*	2
Southern Highlands	Highlands, Jackson County, Locust Gap, Tusquitee	0

- Period of Record Issues, ASOS Airport Stations added as a stop-gap.
- East Piedmont and Northern Highlands most impacted.
- Red Colored Stations = Added Satellite RAWS, Blue Colored Stations = ASOS Stations, ** Denoted Stations = ECONet Stations Missing from SIG, * Denoted Station = Historical/Inactive Station

Fire Weather Intelligence Portal – Current Links

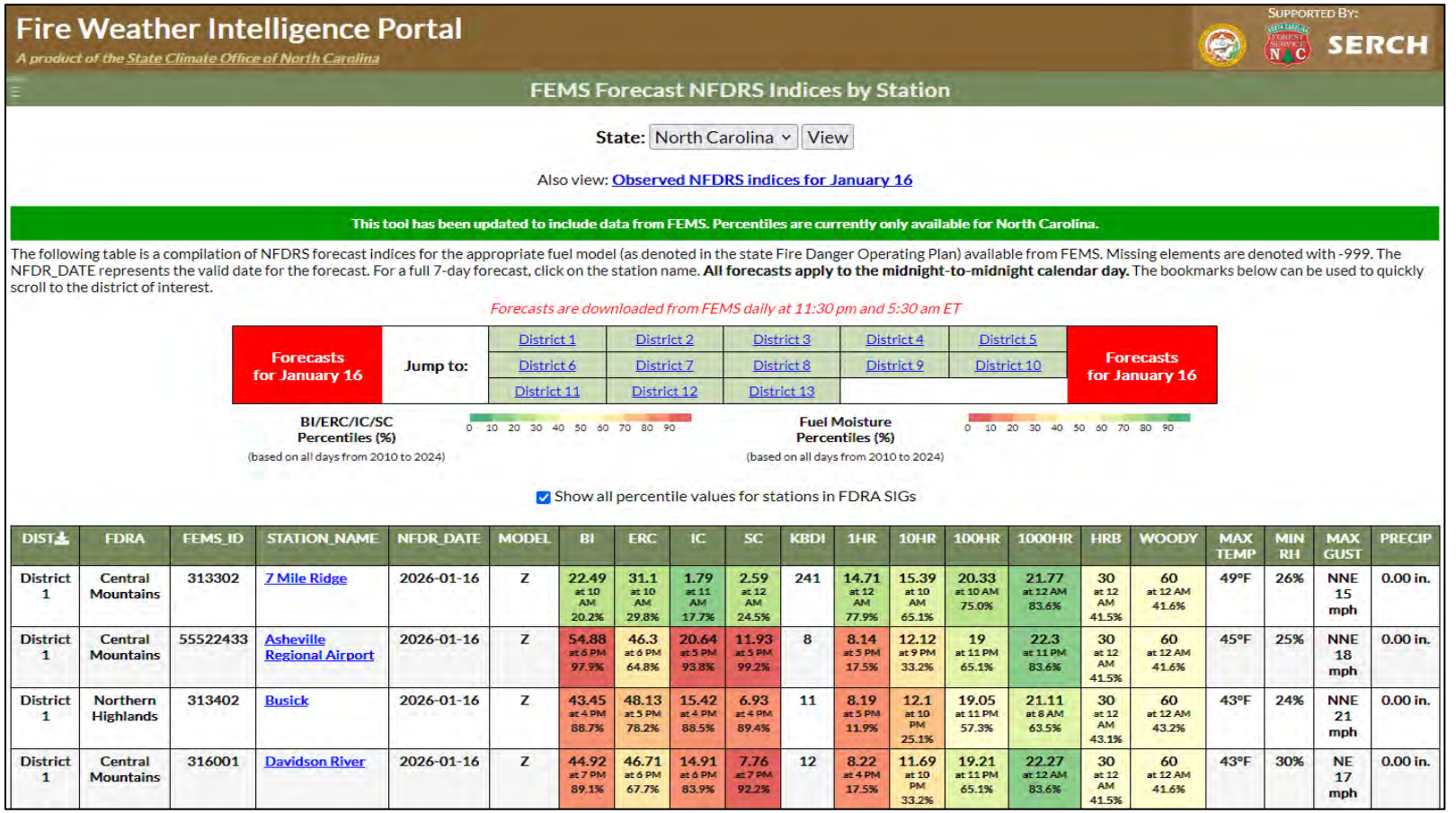
The interim breakpoints and percentiles based on FEMS implementation have been applied to the FWIP for North Carolina FDRAs. Content continues to be added and tools updated. Updated versions of the Hazard Assessment Tool, Adjective Fire Danger Rating Tool, and Daily Forecast/Observed Indices by Station are coming soon. The new versions will automatically replace the older versions, with no need for updating URLs.

- Public Facing Fire Danger Page
  (NC ratings based on ERC-Z analysis)
- Station Viewer Portal
  (Past, Current, Forecast Conditions Tab)
- Hazard Assessment Tool
  (based on ERC-Z/BI-Z or ERC-Z/IC-Z depending on FDRA)
- FEMS Forecast NFDRS Indices by Station
  (displays values for hour of forecasted max/min extreme of calendar day, switches to the next day's forecast after ~1500, reminder that ECONet stations are still not available)
- FEMS Observed NFDRS Indices by Station
  (displays values for hour of observed max/min extreme as it is hit during the current calendar day, reminder that ECONet stations are still not available)
- Station Status Tool
- Quality Control Viewer Tool

The Weekly Outlook Tool is still offline – being revised to conform to new analysis/FEMS integration.

NFDRS Max/Min Daily Forecast Observations for today, 1/16/26

(Bottom of page has Averaged listing for each FDRA by SIG Group & "All Days Filter" for the 2010-2024 Period of Record)



Fire Weather Intelligence Portal

A product of the State Climate Office of North Carolina

Supported By: SERCH

FEMS Forecast NFDRS Indices by Station

State: North Carolina View

Also view: Observed NFDRS indices for January 16

This tool has been updated to include data from FEMS. Percentiles are currently only available for North Carolina.

The following table is a compilation of NFDRS forecast indices for the appropriate fuel model (as denoted in the state Fire Danger Operating Plan) available from FEMS. Missing elements are denoted with -999. The NFDR_DATE represents the valid date for the forecast. For a full 7-day forecast, click on the station name. **All forecasts apply to the midnight-to-midnight calendar day.** The bookmarks below can be used to quickly scroll to the district of interest.

Forecasts are downloaded from FEMS daily at 11:30 pm and 5:30 am ET

Forecasts for January 16 | Jump to: District 1 | District 2 | District 3 | District 4 | District 5 | District 6 | District 7 | District 8 | District 9 | District 10 | District 11 | District 12 | District 13 | Forecasts for January 16

BI/ERC/IC/SC Percentiles (%) 0 10 20 30 40 50 60 70 80 90 (based on all days from 2010 to 2024)

Fuel Moisture Percentiles (%) 0 10 20 30 40 50 60 70 80 90 (based on all days from 2010 to 2024)

Show all percentile values for stations in FDRA SIGs

DIST	FDRA	FEMS_ID	STATION_NAME	NFDR_DATE	MODEL	BI	ERC	IC	SC	KBDI	1HR	10HR	100HR	1000HR	HRB	WOODY	MAX TEMP	MIN RH	MAX GUST	PRECIP
District 1	Central Mountains	313302	7 Mile Ridge	2026-01-16	Z	22.49 at 10 AM 20.2%	31.1 at 10 AM 29.8%	1.79 at 11 AM 17.7%	2.59 at 12 AM 24.5%	241	14.71 at 12 AM 77.9%	15.39 at 10 AM 65.1%	20.33 at 10 AM 75.0%	21.77 at 12 AM 83.6%	30 at 12 AM 41.5%	60 at 12 AM 41.6%	49°F	26%	NNE 15 mph	0.00 in.
District 1	Central Mountains	55522433	Asheville Regional Airport	2026-01-16	Z	54.88 at 6 PM 97.9%	46.3 at 6 PM 64.8%	20.64 at 5 PM 93.8%	11.93 at 5 PM 99.2%	8	8.14 at 5 PM 17.5%	12.12 at 9 PM 33.2%	19 at 11 PM 65.1%	22.3 at 11 PM 83.6%	30 at 12 AM 41.5%	60 at 12 AM 41.6%	45°F	25%	NNE 18 mph	0.00 in.
District 1	Northern Highlands	313402	Busick	2026-01-16	Z	43.45 at 4 PM 88.7%	48.13 at 5 PM 78.2%	15.42 at 4 PM 88.5%	6.93 at 4 PM 89.4%	11	8.19 at 5 PM 11.9%	12.1 at 10 PM 25.1%	19.05 at 11 PM 57.3%	21.11 at 8 AM 63.5%	30 at 12 AM 43.1%	60 at 12 AM 43.2%	43°F	24%	NNE 21 mph	0.00 in.
District 1	Central Mountains	316001	Davidson River	2026-01-16	Z	44.92 at 7 PM 89.1%	46.71 at 6 PM 67.7%	14.91 at 6 PM 83.9%	7.76 at 7 PM 92.2%	12	8.22 at 4 PM 17.5%	11.69 at 10 PM 33.2%	19.21 at 11 PM 65.1%	22.27 at 12 AM 83.6%	30 at 12 AM 41.5%	60 at 12 AM 41.6%	43°F	30%	NE 17 mph	0.00 in.

A few General Reminders related to FEMS Implementation as you look at the above graphic:

BI/ERC/IC/SC Percentiles (%) 0 10 20 30 40 50 60 70 80 90 Fuel Moisture Percentiles (%) 0 10 20 30 40 50 60 70 80 90

- *NC is utilizing **FM-Z** for all FDRAs in North Carolina (this fuel model **DOES NOT USE** live fuels in the outputs for its indices, but an even distribution of 1/10/100/1000-hr dead fuels)*
- *Pre-FEMS Old FDRA specific NC Forest Service generated Pocket Cards* no longer match the new period of record, fuel model, or method of fire danger calculation used in FEMS/NFDRS-V4.
- *FEMS produces hourly fire danger – with Daily Max/Min Indices from Midnight-Midnight LST, not for once a day at 1300 LST like in WIMS.*
  - *The above values represent the max or min forecasted "hourly observed value" along with the hour it is estimated to occur - for 1/16/26*
  - *Forecast Observation MAX for indices and MIN for fuel moistures; new forecasts are run once a day around 0400 UTC to generate outputs for the next 7 days.*
  - *Grid forecast values are applied to station locations. Wind estimates from the gridded forecast may be higher than observed. Part of this is likely due to local station nuances related to vegetation or other obstructions impacting the station sensors. Another aspect may relate to differences between modeled 10-meter wind vs. the observed RAWS 20-ft wind speed standard.*
- *The Fire Weather Intelligence Portal continues to update text, internal databases/components, etc. as we move forward into full "FEMS" implementation.*
- *Adjustments will be made in FWIP as FEMS developers continue building out the system; any significant updates will be posted on the FWIP.*
  - *ECONet Stations remain unavailable in FEMS (45 stations in NC), so will not have NFDRS values produced – we hope to see them added operationally soon.*
  - *-999 Represents Null Values/place holder, observed weather values are still visible because they are queried from a separate data connection not involving FEMS.*

Daily Adjective Rating Outputs for each FDRA (ERC from FM-Z)
(Observed on Left, Forecast on Right)

Low | Moderate | High | Very High | Extreme

FDRA	Recent Data (Calculated from hourly estimates)							Forecast Data (Calculated using hourly forecasts)						
	FRI JAN 9	SAT JAN 10	SUN JAN 11	MON JAN 12	TUE JAN 13	WED JAN 14	THU JAN 15	FRI JAN 16	SAT JAN 17	SUN JAN 18	MON JAN 19	TUE JAN 20	WED JAN 21	THU JAN 22
Southern Highlands	L	L	L	L	M	L	L	M	L	L	L	L	L	L
Central Mountains	M	L	L	M	M	M	M	M	M	M	L	L	L	L
Northern Highlands	M	L	L	M	M	M	M	M	L	L	L	L	L	L
Blue Ridge	M	L	L	M	M	M	M	M	M	M	M	L	L	L
Western Piedmont	L	L	M	M	M	M	M	M	M	M	L	L	L	L
Sandhills	L	L	M	M	M	M	M	M	M	M	M	M	L	L
Eastern Piedmont	M	L	M	M	M	M	M	H	M	M	L	L	L	L
Southern Coast	M	L	M	M	M	M	M	M	M	L	M	M	M	M
Northern Coast	M	L	L	M	M	M	M	M	M	L	M	M	L	L

Hazard Matrix Outputs for each FDRA (FM-Z)

Current Statewide Hazard Summary for NC

Click on any daily Hazard Level to view the calculation details for that FDRA.

FDRA	Recent Hazard Levels (Based on the final forecasts for each date)							Forecasted Hazard Levels (Based on the latest forecasts)						
	FRI JAN 9	SAT JAN 10	SUN JAN 11	MON JAN 12	TUE JAN 13	WED JAN 14	THU JAN 15	FRI JAN 16	SAT JAN 17	SUN JAN 18	MON JAN 19	TUE JAN 20	WED JAN 21	THU JAN 22
Southern Highlands	1	1	1	2	2	1	1	3	1	1	1	1	1	1
Central Mountains	1	1	1	2	2	2	2	2	1	2	1	1	1	1
Northern Highlands	2	1	2	2	2	2	2	2	1	1	1	1	1	1
Blue Ridge	2	1	1	2	2	2	2	2	2	2	2	1	1	1
Western Piedmont	1	1	2	2	2	2	3	3	2	1	1	1	1	1
Sandhills	1	1	3	2	2	2	3	3	3	1	2	2	1	1
Eastern Piedmont	1	1	3	2	3	2	3	3	3	2	1	1	1	1
Southern Coast	1	1	3	2	3	2	3	3	3	1	2	2	2	2
Northern Coast	2	1	1	2	2	2	3	3	3	1	2	2	1	1

The FDRA SIG Averages are applied to generate Percentiles and Color Coding For "All-Days" using new period of record (2010-2024) for SIG stations. Values are based on FEMS processor outputs.

Daily forecast outputs are subject to significant change over time, as they are derived from gridded weather forecast data + actual observed conditions.

Very cold daily max air temperatures, lower solar angle, shorter winter day length all help reduce fuel heating and atmospheric mixing. As a result, can reduce the daily moisture loss in dead fuels, as compared to higher air temps + dry air. The forecast trends in dead fuel moistures over the next 7-days (to the right) reflect this concept at least partially.

Those forecasted fuel moisture values are then applied within the NFDRS model and impact the predicted hazard level and daily adjective rating (left).

Fcst. Daily Min. DFM (1-Hr) Pctl. for FDRAs in North Carolina

FDRA	Fri Jan 16	Sat Jan 17	Sun Jan 18	Mon Jan 19	Tue Jan 20	Wed Jan 21	Thu Jan 22
Southern Highlands	73.9%	87.8%	86.2%	89.4%	100.0%	100.0%	100.0%
Central Mountains	40.3%	81.6%	81.6%	88.4%	100.0%	100.0%	100.0%
Northern Highlands	83.2%	87.9%	87.9%	90.7%	99.9%	99.9%	99.9%
Blue Ridge	38.2%	82.1%	82.1%	86.8%	99.9%	99.9%	99.9%
Western Piedmont	29.3%	58.7%	82.6%	88.3%	100.0%	100.0%	99.1%
Sandhills	20.4%	70.5%	91.7%	81.3%	89.9%	96.8%	97.2%
Eastern Piedmont	21.8%	53.0%	92.3%	87.2%	99.0%	100.0%	100.0%
Southern Coast	31.2%	59.4%	95.1%	68.3%	59.4%	59.4%	59.4%
Northern Coast	25.6%	54.2%	94.1%	64.4%	77.5%	97.4%	97.4%

Fcst. Daily Min. DFM (10-Hr) Pctl. for FDRAs in North Carolina

FDRA	Fri Jan 16	Sat Jan 17	Sun Jan 18	Mon Jan 19	Tue Jan 20	Wed Jan 21	Thu Jan 22
Southern Highlands	71.9%	84.2%	81.2%	81.2%	91.6%	96.5%	96.5%
Central Mountains	46.5%	56.4%	71.1%	71.1%	91.5%	96.8%	96.8%
Northern Highlands	68.9%	77.9%	77.9%	77.9%	90.1%	97.3%	97.3%
Blue Ridge	28.8%	43.4%	55.4%	71.5%	91.0%	97.0%	97.0%
Western Piedmont	30.1%	30.1%	30.1%	83.5%	94.4%	97.9%	96.6%
Sandhills	47.5%	32.7%	47.5%	80.8%	75.3%	87.1%	89.5%
Eastern Piedmont	26.3%	26.3%	42.5%	92.7%	94.0%	97.6%	98.2%
Southern Coast	30.9%	30.9%	66.6%	66.6%	44.5%	30.9%	17.7%
Northern Coast	44.5%	30.8%	56.8%	73.8%	56.8%	79.3%	87.2%

Fcst. Daily Min. DFM (100-Hr) Pctl. for FDRAs in North Carolina

FDRA	Fri Jan 16	Sat Jan 17	Sun Jan 18	Mon Jan 19	Tue Jan 20	Wed Jan 21	Thu Jan 22
Southern Highlands	81.8%	81.8%	81.8%	81.8%	81.8%	81.8%	87.6%
Central Mountains	65.1%	65.1%	65.1%	65.1%	65.1%	65.1%	75.0%
Northern Highlands	68.8%	68.8%	68.8%	68.8%	68.8%	68.8%	77.8%
Blue Ridge	61.5%	48.1%	48.1%	48.1%	48.1%	48.1%	72.5%
Western Piedmont	49.2%	34.1%	34.1%	34.1%	34.1%	49.2%	62.6%
Sandhills	60.3%	47.8%	47.8%	47.8%	70.9%	79.6%	70.9%
Eastern Piedmont	44.5%	27.7%	27.7%	27.7%	44.5%	59.5%	72.5%
Southern Coast	62.8%	49.3%	49.3%	73.9%	82.7%	73.9%	62.8%
Northern Coast	64.4%	37.2%	51.3%	64.4%	75.3%	75.3%	75.3%

Fcst. Daily Min. DFM (1000-Hr) Pctl. for FDRAs in North Carolina

FDRA	Fri Jan 16	Sat Jan 17	Sun Jan 18	Mon Jan 19	Tue Jan 20	Wed Jan 21	Thu Jan 22
Southern Highlands	96.4%	96.4%	96.4%	90.7%	90.7%	90.7%	90.7%
Central Mountains	83.6%	83.6%	83.6%	83.6%	83.6%	83.6%	83.6%
Northern Highlands	63.5%	63.5%	63.5%	63.5%	63.5%	63.5%	63.5%
Blue Ridge	80.7%	80.7%	65.5%	65.5%	65.5%	65.5%	65.5%
Western Piedmont	79.7%	65.2%	65.2%	65.2%	65.2%	65.2%	65.2%
Sandhills	65.8%	65.8%	65.8%	65.8%	65.8%	65.8%	65.8%
Eastern Piedmont	49.6%	49.6%	49.6%	49.6%	49.6%	49.6%	49.6%
Southern Coast	67.5%	67.5%	67.5%	67.5%	67.5%	67.5%	67.5%
Northern Coast	69.6%	54.4%	69.6%	69.6%	69.6%	69.6%	69.6%

Overall

- January 26' fire activity and difficulty of control has trended significantly higher than normal, especially for areas experiencing drought. Fire effective weather aligning with dry/dormant fuels, and drought have led to multi-day periods of heavier initial attack.

- Shorter days/less heating, air mass change/return of reasonable recoveries, less robust mixing and quick initial attack have generally kept difficulty of control and average fire size down. As we move towards February and March – each day is gaining ~1-2 minutes a day of extra daylight, increasing sun angle and additional heating/drying potential.

- Also, as stated previously – KBDI is much less reflective of actual conditions during the cold season due to the nature of the model, leading to potential misperception of less concern after a handful of modest rainfall events. Of note however – pockets still showing 300+ KBDI (earlier map) are indicative of both missed rain and high carryover values from late summer and fall.

- Even with higher duff/soil moisture – surface fire will remain a concern with fluffy pine & hardwood litter + interaction with Helene (or other storm/insect damage areas) footprint issues, as there have been no widespread and impactful snow events at this point in the season.

- A large portion of the state is now at 4-6 weeks since a ½" + rainfall event.

- Warming and drying trend appears more likely as we move towards Spring for NC and most of the Southeast (La Nina related trend). Although the CPC outlook is favoring a lean towards above normal precip at the 6-10/8-14-day window, remember the actual amount we are behind (on the order of 5-12"+ deficits at 12-mo time scale).

- A reminder - colder air temperatures can initially moderate impacts of very dry air and fuel dryness, however warming conditions that align with already critically dry fine & medium sized dead fuels can lead to extended burning periods and greatly enhance difficulty of control (Spring of 2025).

- Field units report observing fire behavior more like middle February (more robust) than mid-January on prescribed burns and wildfires, within drought impacted areas (across most of the Southeast US). Sandhill and surrounding area units reports drains (typically moist) not holding fires, duff consuming, and reburn/escapes occurring days after the initial fire. Aerial snags have also been noted as consuming and increasing control difficulty.

- Careful monitoring of post-burn prescribed fire units & wildfire footprints that overlap with abnormal dryness/low soil moisture will be crucial as we move through "dormant burn season", especially if dry conditions stay entrenched. Note the fire detects across the Southeast today (right).

https://www.ospo.noaa.gov/products/land/hms.html#maps